

ROCKS AND MINERALS

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JANUARY - FEBRUARY 1959

51st LIST OF FINE MINERALS

COLUMBITES, Laramie Co., Wyoming. Crudely xld. mass. 2x1x1. 2 1/2 oz..	\$ 1.50
SILVER, Kongsberg. Group of heavy curved wires. 3x2x2.	20.00
APOPHYLLITE, Poonah, India. Green xls. on rock. 3 1/2x2 1/2x1 1/2	4.00
CUPRITE, Amherst, Virginia !!! Bright xls. on rock. 2x1 1/2	5.00
BORACITE Lüneberg, Germany. Two 3/8" xls. in matrix. 2 1/2x1 1/2	3.00
AXINITE, Bourg d'Oisans, France. Well xld. on rock. 3x2	7.50
AXINITE, Switzerland. Group of xls. encl. Chlorite. 1 3/4x2 1/4	5.00
AXINITE, Roscommon Cliff, Cornwall. Xld. on mass. 22 1/2x1 3/4	2.50
MILLERITE, Antwerp, New York. Capillary xls. in Hematite. 2x2 1/2	3.50
PYROSOMALITE, Sweden. Good xls. on matrix. 3x2	5.00
COMMON OPAL var. ROSE OPAL, Quincy, France. Pink and white mass. 2 1/2x2	2.00
FRIEDELITE, Franklin, N. J. Solid brownish-red mass, polished. 2 1/2x1 1/2x1	6.00
CLINOCLASITE, Cornwall. Xld. on iron-stained Quartz xls. 2x1 1/2	5.00
CELESTITE, Sicily. Snow-white xld. groups w. some Sulphur on rock. 5x3	6.00
BERYL v. MORGANITE, Pala, Calif. Pale pink tabular, cloudy xl., not suitable for cutting. 2x2x3/4	20.00
BOTRYOGEN w. COPIAPITE, Sierra Gorda, Chile. Xline. mass. 3x2x2	2.00
VARLAMOFFITE, Cornwall. Massive w. Turquoise. A rare tin mineral. 1 3/4x1 1/4	3.00
RUTILE, Graves Mt., Ga. Brilliant 1/2" xl. in matrix. 2x1	3.50
WULFENITE, Red Cloud, Arizona. Small xls. w. Vanadinite on rock. 3x2x2	3.50
MONAZITE, Madagascar. Good 1 1/2x1 1/2 xl.	2.00
QUARTZ, Catawba Co., N. C. Group of xls. encl. Clay. 3x2x1 1/2	2.50
CHALCOPYRITE, Ugo, Japan. Well xld. mass, partly iridescent. 4x3	8.50
TETRAHEDRITE, Cornwall. Xls. coated with iridescent Chalcocopyrite, with small xls. of Galena, on rock. 3x2	5.00
VASHEGYITE, Manhattan, Nevada. Whitish veins in green Opal, pol. 3x2x1 1/2	2.50
NEPTUNITE, BENITOITE & JOAQUINITE, California. Xld. on rock. 4x3x2	15.00
PARACELSIAN, Rhiw, Wales. Well xld. on rock from only known locality of this exceedingly rare barium mineral. 2 1/2x2	7.50
CHALCOCITE, Cornwall. Large xls on ore. 3x2 1/2x1 1/2	7.50
PURPURITE, Newry, Maine. Xline. mass. 2x1 1/2	1.25
LIMONITE, Hungary. Brightly iridescent mamillary mass. 2 1/2x2	2.00
NATROLITE, Giants Causeway, Ireland. Acicular xls. in rock. 2x2	2.50
BABINGTONITE, Winchester, Mass. In large xls. in rock. 2 1/2x1 1/2	2.50
TOURMALINE, Overlook, New York. Black terminated xl. 3x2 1/2x2 1/2. 1 1/4 lbs.	10.00
CROCIDOLITE, Franklin, N. J. Light blue fibrous mass w. Sphalerite. 3x2 1/2	2.00
BARITE, Cumberland. Group of "old-time" greenish xls. 3x3	3.00
NESQUEHONITE, Nesquehoning, Pa. Radiating chalky xline. mass. 2 1/2x2	2.50
CUPRITE, Bisbee, Ariz. Brilliant xls. on massive Cuprite. 3x2x1 1/4	10.00
THOMSONITE, Paterson, N. J. Xld. on Prehnite. 4x3 1/2	3.50
FLUORITE, Alston, Cumberland. Group of large amethystine xls. 3 1/2x2 1/2x2 1/2	3.50
PYROMORPHITE, Phoenixville, Pa. Bright xld. aggregates on rock. 2 1/2x2	3.50
COPPER in CALCITE, Michigan. Small xls. with Copper on rock. 5x3	7.50
IDOCRASE (VESUVIANITE), Ala, Italy. Large green xls. on mass. 3x2x1 1/2	4.00
SPHALERITE, Hungary. Group of translucent greenish xls. 2 1/2x2	6.00
CASSITERITE, Taylor Creek, N. M. Micro xld. w. Hematite. 2x2	2.00
PHENAKITE, Florissant, Col. Two small xls. on Orthoclase xl. 2x1	2.00
CRYOLITE, Greenland. In small xls. on xline. mass. 2x1 1/2	1.50
EUXENITE, Madagascar. Group of xls. in parallel position. 1 1/2x3/4	2.00
WOLFRAMITE, Tazna, Bolivia. Mass with some xl. faces. 2 1/2x2	3.00
APOPHYLLITE, Paterson, N. J. Very good glassy xls., on rock. 5x4	6.00

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ROCKS and MINERALS

PETER ZODAC, Editor and Publisher

America's Oldest and Most Versatile
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ASSOCIATION

WHOLE NO. 232

VOL. 28, NO. 1-2

JANUARY-FEBRUARY, 1953

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Chips from the Quarry

MINERALOGICAL SOCIETY OF AMERICA HONORS R&M EDITOR

Mr. Peter Zodiac
Peekskill, N. Y.
Dear Mr. Zodiac:

It is my pleasure to inform you that you have been elected to Fellowship in the Mineralogical Society of America. We hope you will be able to accept this honor, which is tendered to you in recognition of your contributions to Mineralogy.

On behalf of the Society I congratulate you and extend our best wishes for the New Year.

Sincerely yours,

(Signed) C. S. HURLBUT, JR.,

Sincerely yours,

Harvard University, Cambridge 38, Mass.

Words of Praise From California!

Editor R&M:

Enclosed find check for the amount of \$1.20 for which please send two extra copies of the Nev.-Dec. issue of ROCKS AND MINERALS.

I can't believe that your magazine is published clear back in New York when you give so much consideration to the societies and collectors of the West. We look forward with eagerness to the arrival of your magazine. When I am reading it, I feel as if it is a "Home Town" publication. For instance, in the last issue is a picture of the "Onyx ledge, Inyo County, California." I have been there many times. Then I turn over, I do not collect sand, but my eyes fairly pop out when I see "Lake Sand from Wallowa Lake, Oregon. You write about these places as if you knew and loved them even as we do. And to think, your magazine is published in New York!

I would suggest that you move your business out to California. I know you are the type of person we would like to have in our fair state. We have a lot to offer you in return—Beauty, Relaxation, Peace of Mind, and Yes, Rocks and Minerals—Lots of "Rocks" and "Minerals".

Hazel B. Scherzinger
6991 Valley Way,
Riverside, California

Dec. 12, 1952

O. IVAN LEE DIES SUDDENLY

Harry Grahl of the Bronx, New York, informs us that O. Ivan Lee, well-known mineralogist of Jersey City, New Jersey, died suddenly on November 26, 1952. Burial was at Newton, Connecticut.

An Invitation from Washington!

Editor R&M:

I truly hope you can see your way clear to pay us that long expected visit and be our guest while on the West Coast. I can promise you a good time with scenic beauty not found elsewhere in the good old U.S.A. And of course if you can accept our standing offer to place you on our July Pow Wow Program, that would indeed be greatly appreciated by your big number of true friends out here where the West really begins.

You would enjoy the 300-mile trip around our scenic Olympic Mts., also the seashore and Puget Sound.

Will you come?

C. H. Robinson, Sr.
623½ 16th St., S.W.
Puyallup, Wash.

Dec. 15, 1952

Available As Lecturer

One of Pennsylvania's most famous rivers, the Susquehanna (known also as "The Long Crooked River"), is rich in historical, geological, and mineralogical lore. A most interesting lecture on this fascinating stream is available to clubs, institutions and other groups; this lecture is free of charge but is limited to an area within a 200 mile radius of Lancaster, Penn. Dr. Richmond E. Myers is the lecturer.

"The Long Crooked River" is a 16 mm. color picture in three parts, each covering a different section of the river or its tributaries so that showings can be arranged for 20, 40 or 60 minutes. It was filmed by Dr. Myers, author of a book of the same title, who as a geologist and writer has studied his subject thoroughly and provides a running commentary as the scenes unfold.

"If you know of any group that might be interested, I shall be happy to arrange for a booking, with the compliments of my employers (Pennsylvania Water and Power Company)."—write Dr. Myers in a recent letter to R & M.

Dr. Myers, one of R & M's warmest friends and who has prepared a number of most interesting articles for the magazine, can be reached by addressing him at Conestoga, Pa., R.D. # 2.

Plenty of Velvet!

Editor R&M:

To a rock hound ROCKS AND MINERALS is worth all it costs for the advertising alone. All the rest is velvet—and there is plenty of velvet.

C. J. Appling
Bailey Flats Road
Raymond, Calif.

Dec. 15, 1952

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CHIASTOLITE OF LANCASTER, MASSACHUSETTS

By B. M. SHAUB

Among mineralogists, both professionals and amateurs, there are but few who have not seen and admired the mineral chialstolite, a variety of andalusite, for its unusual oddities. The crystals of this mineral are frequently illustrated in texts on mineralogy. One of the earliest references to this variety of andalusite was in 1834 when Jackson (1) stated that "among the singular forms assumed by crystals, none, perhaps, are more curious than those of the mineral called *chialstolite* or *maele*." It was about this time that chialstolite was recognized as a variety of andalusite and in support of this view Jackson submitted an analysis of chialstolite from Lancaster, Massachusetts in which he showed the composition to be the same as that of andalusite. A few years later in 1837, Dana (2) p. 318 stated that "the hypothesis of Beudant to account for these freaks in nature, appears to be the most consistent with the appearances presented, that is, that they are simple crystals, with extraneous matter, regularly arranged by the process of crystallization. This is a common effect of crystallization from a medium containing any impurities mechanically suspended, and it fully accounts for the occurrence." In 1889, James Dwight Dana (3) published an illustration (his Fig. 343, p. 372) showing eight sections along the length of a chialstolite crystal which he described as showing "the successive parts of a single crystal, as dissected by B. Horsford of Springfield, Massachusetts." In the *Textbook of Mineralogy*, Dana-Ford (4) p. 615, state that chialstolite is a variety of andalusite "in stout crystals having an axis and angles of a different color from the rest, owing to a regular arrangement of carbonaceous impurities through the interior and hence exhibiting a colored cross or a tessellated appearance in a transverse section." Winchell (5) p. 336 describes chialstolite as a variety of andalusite "containing abundant carbonaceous inclusions inside a crystal in

shapes determined by the inclosing crystal." On page 399 of *Rutley's Elements of Mineralogy* (6), we find that chialstolite is a form of andalusite which "when cut or broken across exhibits a definite cruciform lozenge-shaped or tessellated markings which are due to impurities enclosed in the crystals during their formation."

The nature of chialstolite is treated in a similar manner in numerous texts, it is, in all instances noted, except two, regarded as a single crystal inclosing regularly arranged foreign material, which is often referred to as being carbonaceous. Jackson (1) p. 58 refers to a section as a twin crystal and Dana (3) p. 372 points out a crystal section which was previously shown by Jackson as appearing to represent twinned crystals.

As none of the many sections of chialstolite crystals examined over a period of years showed a series of sections like those of Dana's (3) figure referred to above, this type of occurrence appears to be a special or extreme case of a fundamental principle upon which all of the various chialstolite groups were formed.

In the study of the nature of chialstolite it seemed desirable to make a microscopic examination with polarized light to determine the nature and composition of the dark cores as well as the light-colored parts of the crystals. Thin sections were cut parallel to and across the elongation of the crystals.

In all cases the rectangular core consisted of a fine-grained aggregate of muscovite, chlorite, some quartz, sulphides and/or oxides of iron and titanium. Numerous small irregular specks and rectangular pieces of leucoxene were present in a xenomorphic texture. The core material does not have a schistose texture like the material surrounding the crystals. Hence it is clearly evident that the crystals were developed prior to the development of the schistosity.

The andalusite of the chialstolite appears to have altered completely to mus-

covite in the sections examined. The irregular muscovite grains radiate outward from the core in most instances. In only a few cases were exceptions noted in which there were only minor irregularities in the radial arrangement. An occasional grain of zircon was noted in the altered andalusite, otherwise it appeared that muscovite alone makes up most of the white cross-like part. Along the lines separating the four parts of the cross there appeared very thin separating films of fine-grained rock material like that in the dark core. The periphery of the chiasolite consists of radial muscovite grains which are many times larger than the grains near the core. Beyond the altered andalusite, in a zone adjoining the periphery in which the grains of muscovite and chlorite, constituting the adjoining schist, show a definite orientation parallel to the schistosity and to the elongation of chia-

stolite crystals or bent around them depending upon their orientation. The grain size of these minerals adjoining the altered andalusite is considerably coarser than that of the schist proper and very much coarser than the core minerals.

In none of the sections could any carbonaceous material be detected even under the highest power lenses. The darkness of the core and surrounding schist can be readily explained on the basis of the opaque leucoxene, dark-colored chlorite, and minute specks of oxides of iron and probably some manganese.

The peculiar shape of the groups remain to be explained. It is regretted that good clean specimens with brilliant faces were not available for study. All are enclosed in the dark gray schist. An examination of the crystals of andalusite will show that the orthorhombic crystals are nearly square, the prism angles

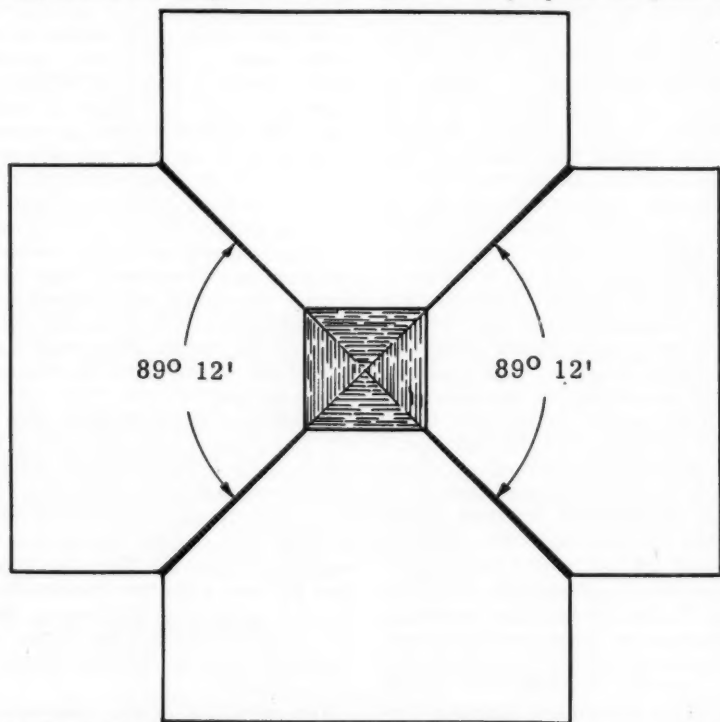


Fig. 1 Diagram illustrating the manner in which andalusite crystals may be twinned to produce the chiasolite groups.

$89^{\circ} 12'$ and $90^{\circ} 48'$, hence a twinning about a prism face as the the twinning plane would, if repeated four times, produce a cyclic twin group similar to manner in which the cyclic twins of aragonite are produced. In aragonite the prism angle is $63^{\circ} 48'$ which requires 6 par-

ticipating crystals twinned on the prism faces. In chialstolite the four-lobed effect can be produced by four participating crystals which are surrounded by the side and front pinacoids. The illustration, Fig. 1, shows the possible arrangement of four andalusite crystals in a

Plates I, II and III. Sections across an assemblage of chialstolite groups from the vicinity of Lancaster Massachusetts. Note the variation of the sections along groups 1 and 2 from section a, Plate I, to section k, Plate III.

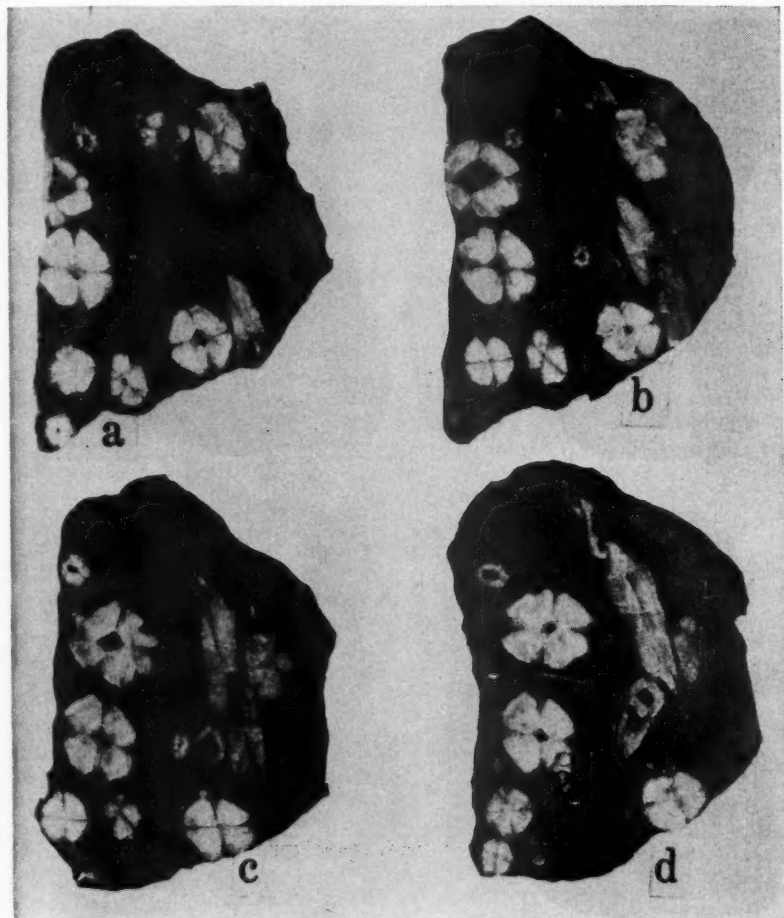


Plate 1

twinned position. The four dark radial lines follow the prism faces (twin planes) along which the parts are united. The union along the twin planes does not appear to be maintained through the length of the twins. If we follow the twin groups 1 and 2 through the successive sections a to l plates I, II and III, we find that the black core becomes smaller toward the middle of the groups

and then expands toward the opposite terminal. Somewhere near the middle the four crystals appear to join. It will be noted that there is a wide variation in the shapes and the relationships of the four parts of the twins one to the other along the length of the crystals. At times they fit neatly together while in a parallel section further along the axis they may be nearly separated by a wide wedge of

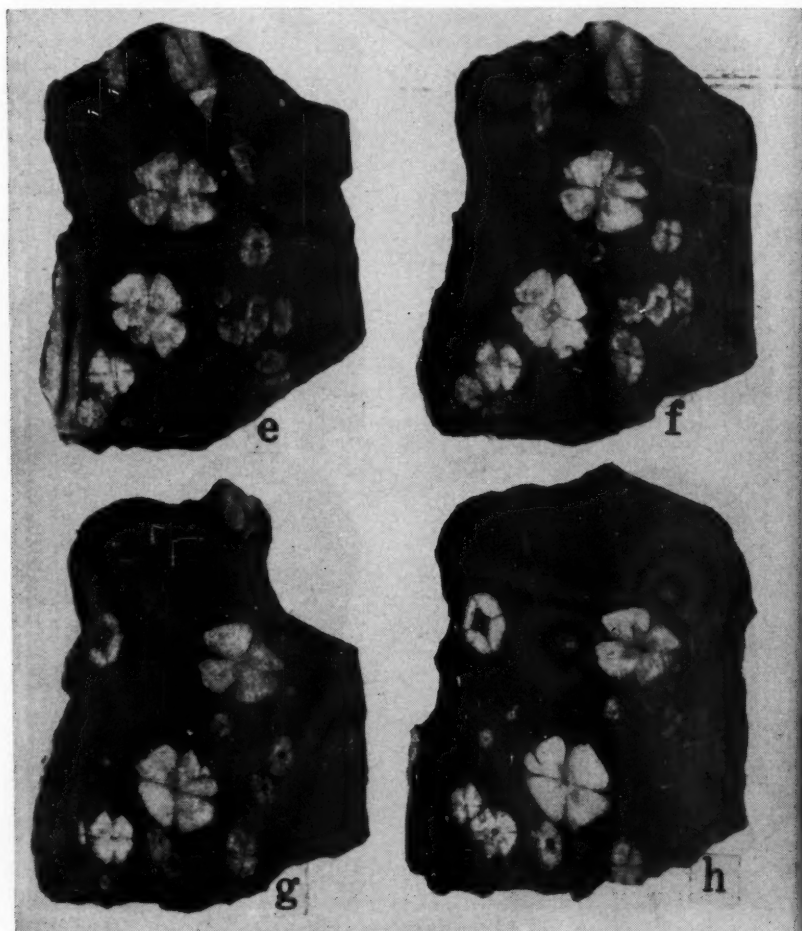


Plate 2

the schist. The outlines may be square and clear cut or ragged and deformed as in group 1 Fig. c plate I. The variations are indeed great, but all can be explained on the basis of repeated twinning on a prism face.

The crystals appear to have grown prior to the development of the schistosity. This is shown (1) by the non-

schistose texture of the minerals in the black core where they were protected from the dynamic forces, (2) by the deformed and broked appearance of so many of the groups and (3) by the wrapping of the schistose texture about the individual groups.

The divergence of the individuals of a twin group, as exemplified by andalu-

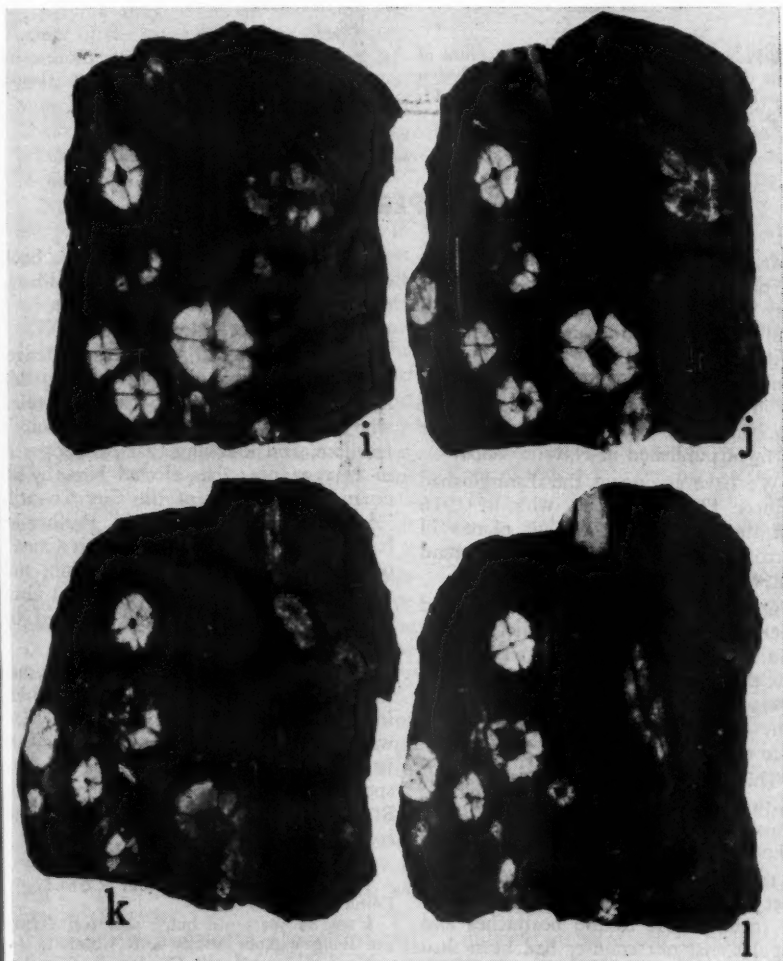


Plate 3

site as it occurs in this area, appears to be rare or unique among mineral twins.

Andalusite, which is orthorhombic, is one of three minerals having a composition of Al_2SiO_5 . The other two are sillimanite (orthorhombic) and kyanite (triclinic). Andalusite is named for Andalusia, Spain, where it was first discovered and chiastolite derives its name from *chi*, the Greek name for the letter X.

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ELLIS C. SOPER HONORED

Mr. Ellis C. Soper, Franklin, N.C., who has donated to ROCKS AND MINERALS many interesting minerals, sands, etc., chiefly from Argentina and Cuba, has received a number of honors in the latter country. What these honors are is best told in the following item taken from the Aug. 5, 1952, issue of the newspaper MANANA published in Havana, Cuba.

"We have among us the distinguished engineer Ellis C. Soper, who in 1916 built the well known cement plant "El Morro," and to whom we wish to extend a most cordial welcome.

"Our visitor is very well known and esteemed in Havana, as while he was building the plant, he happened to learn about the courageous behavior of Antonica Torrens, mailwoman for the Liberation Army during the War for the Independence of Cuba.

"This girl, in spite of the fact that she was pregnant, was taken prisoner by the Spanish forces who hung her in the neighborhood where during the second half of this century Mr. Soper built his plant. Mr. Soper easily moved by human nobleness and feeling close to the heartaches and struggles that our country had been thru to gain its freedom, had the superb gesture of erecting an obelisk near the cement plant, to honor Antonica Torrens. This

action of his has been recorded in a book to perpetuate the heroism of our liberators, and that is now being written by a group of our war veterans.

"The city of Mariel, in acknowledgment of his noble deed in erecting this monument to honor the Cuban heroine who died for the cause of her country's freedom, and knowing that Mr. Soper is in Havana now, has elected him, by an unanimous decision of the City Council, "Adopted Citizen of Mariel." Further he has been made "Veteran Honoris Causa" of the Cuban Veterans' Association, and will be soon condecorated by the Cuban National Red Cross, now presided by General Evelio Figarola."

Mr. Soper is an engineer of international fame and specializes in the building of cement plants. He has travelled widely and being interested in minerals has acquired a large collection of fine specimens. He has been a subscriber for ROCKS AND MINERALS for many years and is a warm friend of the Editor.

Can't Get Along Without R.&M.!

Editor R&M:

I am 83 years old but I still feel I can't get along without ROCKS AND MINERALS.

Charles E. Winslow
31 Wildwood Ave.,
Greenfield, Mass.

Dec. 10, 1952

COLLECTING IN UTAH AND NEVADA

By ROY SHOEMAKER

1827 W. Drescher Street, San Diego 11, California

Have just returned from a very nice trip through Utah and Nevada.

We left here June 30th, and drove through to St. George, Utah, our first stop. We had seen some very nice Malachite and Azurite specimens from this locality.

After a diligent search we found the owner of the mine, but to our disappointment all of the beautiful colored specimens had been removed six years earlier. Now they were only getting Galena and Chalcopryite. He did show us his own personal collection of beautiful stalactites of Azurite and Malachite.

Next stop Cedar City, Utah, from here we planned to go to the Iron mines in this locality. I remember that there was a Mineral Society in this beautiful little town, so going to the local newspaper office I got the address and phone number of the secretary of the society. She recommended that I see the president, Mr. Dalley, Professor of Geology and Mineralogy, at the College.

I made an appointment to meet him at his home. We spent three hours of very interesting conversation looking at his minerals, he had collected from that locality.

I asked about going to the Iron mines and he suggested that he give me some specimens because he had access to the workings and it might be hard for me to get permission to get in.

He gave me some beautiful specimens of Magnetite with associated Xls, of Quartz, Calcite and Dolomite, one large specimen of xled. Magnetite from that locality.

We drove on to Richfield, Utah, where we planned to stay for two weeks. From Richfield it would be less than one day's drive to numerous locations we wanted to visit.

After a rest of one day, our first trip July 2, was to the Big Rock Candy Mountains, located about five miles south of Joseph, Utah.

Here we collected Alunite and Alum Potash, from the Alum King Mine, (must get permission from the owner in Richfield to enter the mine). The Alum Potash is a fibrous type, looks very much like Asbestos and in the mine is a beautiful blue, but on exposure to drier air and light changes to a yellow or snow white.

We collected nine jars of Alum, but none showed any crystal form.

The next day, July 3, we made a trip to the Salt mines at Redmond, Utah, and obtained some very beautiful Halite cleavages which are transparent but do have some of the red clay as inclusions.

This open pit mine has been worked since 1889, for stock salt. Most of the Halite is massive, but at times there are clear sections found which have been distributed to collectors for the last forty years. All Halite xl cleavages, in any collection of a transparent type listed from Salt Lake, Utah, are from this locality. There are no large xls from Great Salt Lake. There are clusters of small xls of an opaque white but no cleavages.

The mine is now owned by Morton Salt Co. and is run by the Poulson Brothers of Redmond, Utah.

On our return we stopped at Mr. Brown's in Salina and looked over his collection, bought a very unusual specimen of Hematite ore. Saw his faceted stones from near Milford. These stones are very unique due to the inclusions of Garnet in Smoky Quartz. He has orientated the stones so a red Garnet shows in every facet when held just right.

July 4, we made a trip to the Uranium stock pile at Marysville, Utah, and with the kind help of the man in charge, got a specimen of each of the different types of Uranium ores and their locations.

July 5, we were off to Milford looking for the beautiful black Quartz xl groups that are to be found in the Granite mountain East of Milford, Utah.

The pockets are found in Orthoclase veins in the Granite. First locate the blue Quartz float, follow this to the vein of Orthoclase and then dig to open up a pocket. We were not so lucky. We found only one small pocket containing about ten pounds of very small xls of poor grade. This pocket was found on our second day of hunting. We were quite discouraged and ready to return to Richfield that evening.

July 7, off for Sulphurdale for specimens. Here we received the surprise of our life. We expected to find a mine. All we found was an open pit, and they were using scrapers to skim off the surface of a cleared area of about an acre in extent. This mine is inexhaustible because the sulphur is forming all the time. Small Drusy sulphur xls are formed on the Rhyolite. This is processed with hot water to recover the sulphur.

July 8, rested and packed our minerals and shipped them home.

July 9, started out on a wild goose hunt for Sapphire and Amethyst in the western section of Wayne Co., near Koosherum. Found nothing for the day's labor but beautiful scenery and plenty of deer, but sorry to say they cannot be added to a mineral collection.

July 10, back to Wayne Co. through some of the most beautiful scenery in the world. After leaving Torry, going down the canyon, we wound through high sandstone cliffs that have been cut by erosion into fantastic shapes, beyond any comprehension and impossible to describe. This leaves a person with a feeling of being so small, so useless against nature and its wonders. Suddenly we come to a green oasis of fruit trees and we are at Doc. Inglesby, a man just as interesting as the country he lives in. Doc is nearing 80 but he has the get up and go of a man half his age. The stories he tells of this country are just as varied as the weather worn mountains around him.

He has been in every part of the Wayne Wonderland. He can tell you of the visits to the cliff dwellings where no white man has ever been.

He has accumulated a great stock of

minerals from every part of Utah, also cutting material of the finest.

We spent the whole day with him and bought some very nice specimens of Copper ores and several other varieties.

July 11, visited the Gypsum mill but all the Gypsum was of a massive type so no specimens.

July 12, rested and packed car for our trip into Nevada.

July 13, said good-by to Richfield. Our next stop was at Eureka, Utah. Found one boy selling mineral specimens but no top grade ones. We bought one specimen of Ruby Silver (Pyargyrite) and one of Native Wire Silver, in Silver Sulfide. It seems miners do not know good specimens when they see them. All they are interested in is, how much per ton will it run.

From here we continued on to Deseret and south 10 miles after Golden Labradorite. This is found in two small hills of lava, right out on the floor of the valley. The labradorite weathers out of the lava and is found as float on the ground around the hill. A stone that will cut 5 carats is very rare, the average is around a carat. The four of us picked up about a pint in three hrs.

I found one beautiful specimen in matrix for the boy's collection.

We gave up the idea of going to Topaz Mountain, because of the heat. On that white mountain of Rhyolite it would be unbearable. We decided to try again when the weather was more favorable.

Arrived in McGill, Nevada, around midnight.

July 14, rested from our trip.

July 15, visited Kendicott Copper Smelter and saw the smelter collection, also the superintendent's private collection of copper minerals.

July 16, visited Ruth Copper pit and office and looked over their beautiful collection of minerals. There were several specimens that I would have liked to have but I could neither trade nor buy them.

We went to several of the prospect holes around the pit but did not find anything worth collecting.

July 17, made a trip to the famed Gar-

net fields above Ely. These Garnets are of gem quality but they are so red they appear almost black when cut. They are Almandite Garnets and are found in the Rhyolite.

July 18, made a trip to the Cherry Creek area. This area is where gold was first found in this section; now they are working it for Scheelite. We got several specimens of Scheelite but could not find any that showed xl form. We visited the mill where they are concentrating the ore which was very interesting.

July 19, had the car checked, ready to leave in the morning for Tonopah, Nevada.

July 20, arrived in Tonopah around 4:30 P. M. Went to see Mr. C. C. Boak, world wide collector of minerals. I had visited his place several times before so I was more or less interested only in his recent additions and what he had

for sale. I bought a specimen of Petrified Algea for cutting. His other minerals were mostly from the Tri-State District and I had as good as he.

From here we went on to Mina. Our stay here was not too successful. One days trip from Mina to Gabbs valley netted us three specimens of xized Brucite.

We obtained from a miner, some Powellite, from the Elsworth area and some Wolframite from Elko County.

We stopped at the Columbus Borax Marsh, but there had been a heavy rain the day before and all the cotton ball borax (Ulexite) had been ruined, so we did not even get one specimen.

This brought to an end our search for minerals. We left for San Diego very tired, but well satisfied with our new specimens.

NEW HILLQUIST TRIM SAW FEATURES PORCELAIN TOP!

According to the Lapidary Equipment Company, Seattle, their new "Trimster" is the only trim saw on the market with a baked porcelain enamel top.

The ultra-smooth porcelain surface permits a perfectly smooth feed and prevents any sharp edges of the stone from biting the top. All corners of the porcelain-finished top are rounded, so that the surface is very easy to keep clean. The tank of the new "Trimster" saw is of cast aluminum. The removable front guard is of formed sheet aluminum and the hinged rear guard of clear moulded plastic. The new "Trimster" also features the time-proven Hillquest Grease pressure lubrication system which is so effective in preventing bearing contamination.

R. D. Bradley of the Lapidary Equipment says that the new Trimster trim saw has been especially precision built for resawing precious gem material. This new trim saw is furnished complete with the buyer's choice of a 5" thin blade (.018") for resawing, or a 7" standard diamond saw blade for all-purpose trimming. The new Trimster sells for \$36.50 f.o.b. Seattle complete with saw blade and is available from Hillquist lapidary equipment dealers throughout the United States or from the manufacturer, Lapidary Equipment Company, Inc., 1545 West 49th Street, Seattle 7, Washington.

First Issue Arrived—No Housework Done! Editor R&M:

Our first issue of R & M came today. It is wonderful! I got almost no housework done all day. Of course the subscription was for my son's birthday and he was just as enthusiastic as I am with it.

Mrs. Virginia Howie
Ridge St.,
Millis, Mass.

Nov. 13, 1952

Who Has Oldest Publication on Minerals? Editor R&M:

"Spent the evening in our attic looking over my file of ROCKS AND MINERALS and other mineral publications. Found one which I thought might be of great interest to you and am sending it under separate cover. To date this is the oldest publication (monthly) on minerals I have seen. Why not run a contest in R & M to see which reader has the oldest.

"Might stir up some interest in the old timers.

"I have one issue of 1889 I am keeping for my own."

Cal O. Gettings
2001 Starr Avenue,
Toledo 5, Ohio

Oct. 31, 1952

Editor's Note: The publication received is the MONTHLY BULLETIN, March, 1892, that was published by A. E. Foote of Philadelphia, Pa. It consists of 32 pages—no cover.

BERAUNITE—CACOXENITE LOCALITY IN PENN.

By PETER ZODAC

Editor, Rocks and Minerals

One of the many interesting localities in Pennsylvania is the abandoned iron ore mine at Hellertown, Northampton County. Gordon (1) lists it as follows:

"Abandoned iron ore pit, 1 mile south of the center of Hellertown, and a quarter-mile east of the fork of road (Allentown 9147) Cambrian quartzite; Cambro-Ordovician limestone; residual deposits of goethite".

I have visited this locality on several occasions. The last time I was there, Mon. Sept. 5, 1938, Floyd Faux, 635-4th Ave., Bethlehem, Pa., guided me to the locality. According to my notes there was and perhaps still is a historic sign on Penn. 412 on the southern outskirts of Hellertown. The sign reads:

Bethlehem 5 M
Hellertown
named after
Christopher Heller
Pioneer and first settler
Founded 1742

About 100 feet south of the sign was the Wm. Strauss garage and 300 feet further is the fork in the road mentioned by Gordon. The right fork is Penn. 412 (concrete highway); the left fork is a dirt road. About 500 feet down the dirt road we turned left on an old lane or path, went 800 feet uphill (I believe) and through woods until we hit an open field; the pits were to the left of this field. There were 2 pits, the first was 160 feet long, 100 feet wide, and 20 feet deep; it was dry but densely overgrown with brush. The second pit was 100 feet further, about 20 feet in diameter, 8 feet deep, and dry.

It was in the first pit that we found minerals; nothing in the other. The following minerals were found:

Beraunite. This is a hydrous iron phosphate. It occurs as small reddish-brown masses in limonite, cacoxenite is often present with it. We found our best speci-

mens in the side of the pit, embedded in the massive limonite; a sledge hammer is useful in breaking up large masses. Though not an attractive mineral, beraunite is interesting, nevertheless.

Cacoxenite. This is also a hydrous iron phosphate. It occurs as small, golden-yellow tufts or needles, often radiating, on limonite. In a number of specimens examined, the cacoxenite radiates from small rounded, brownish globules (goethite?), giving the specimen the appearance of miniature "black-eyed Susans". Cacoxenite makes an attractive specimen and it was found with beraunite in the side of the pit.

Limonite. Is the ore of the mine and is present in dark brown, sometimes earthy, masses. Yellow ocher (small earthy masses, yellow in color) was seen in cavities of limonite.

Psilomelane. Small black botryoidal masses in limonite.

Quartz. Milky and smoky, both massive.

Turgite. Lustrous, black, encrusting walls of small cavities in limonite. Also occurs as small lustrous black coatings in small cavities of mottled quartzite.

Wavellite. This is a hydrous aluminum phosphate. It was found as small radiated white fibers and colorless acicular crystals on limonite. Noted also as parallel masses of white fibers (good) in narrow veins in limonite. This too was found in the side of the pit, at the beraunite locality.

Reference

- (1) Gordon, Samuel G., The Mineralogy of Pennsylvania, Academy of Natural Sciences, Phila., Pa., 1922, p. 220.

Always Recommends R.&M.!

Editor R&M:

Your magazine is great and getting better every year. I have been able to get many people interested in minerals and always recommend ROCKS AND MINERALS.

Millard H. Chandler
Royce House
North Chatham, N.H.

Nov. 18, 1952

PEGMATITE MINERALS OF THE UNITED STATES

By DAVID M. SEAMAN

Harvard University, Cambridge, Massachusetts

PART 1 — ELEMENTS, SULFIDES, SIMPLE OXIDES

Pegmatites are known by all mineral collectors for their excellent and often large crystals. Some 250 different mineral species have been identified from the granite pegmatites within the borders of the United States. Others have been found such as are in the collection of Harvard University and other institutions which are still waiting the time for research and description. Many of these unusual minerals may be noted only through a careful search through the voluminous literature on pegmatites. With these rarities especially in mind it is the hope of the writer that a series of articles on the fascinating pegmatite minerals may prove interesting to the readers of **ROCKS AND MINERALS**. This first article will take up the groups of native elements (5), sulfides (15) and simple oxides (10); with the other groups to follow in successive articles.

Native Elements (5)

GOLD, Au, is one of the rarest minerals known to occur in our pegmatites and it is chiefly of mineralogical interest. In 1911, gold was found along Coosa Creek four or five miles south of Blairsville, Union County, Georgia. It has been mined from a pegmatite at Pinetucky, Randolph County, Alabama; and from a few pegmatites near Silver Peak, Nevada. However gold is most commonly found in quartz veins as a late mineral and it has also been introduced in our pegmatites during the latest stages of mineralization.

SILVER, Ag, is even rarer than gold. Rare minute blebs of a white, metallic mineral scattered throughout chalcocite of secondary origin in the School Section pegmatite of the Eight Mile Park area northwest of Canon City, Colorado, have been identified as native silver by means of an x-ray powder photograph.

BISMUTH, Bi, is occasionally noted in small amounts as at Branchville, Monroe, and at an old quarry near Southford, all in Connecticut. At the latter locality it

has been found in large pieces. Also occurs at Pala and Rincon, California; in the Petaca district of Rio Arriba County, New Mexico; from the Harney Peak region of South Dakota; the Reagan mining district, Kern range, White Pine County, Nevada.

SULFUR, S, occurs very rarely in pegmatites where it no doubt has been produced by the decomposition of metallic sulfides. It has been found in Colorado as tiny yellow grains as a very rare mineral in the pegmatites of the Mt. Antero region. Noted in grains also at Shaft 7 near Fishkill, New York.

GRAPHITE, C, is rather uncommon in pegmatite. In the eastern and south-eastern Adirondack region of New York particularly at Ticonderoga it occurs in graphitic quartzites, in small quartz veins, and in pegmatites. At Lewiston, Yarmouth, and Madrid, Maine. Also at Portland and Haddam Neck, Connecticut, and some localities in southeastern Pennsylvania.

Sulfides (15)

TETRADYMITE, bismuth tellurium sulfide, has been found in the Ben Nevis mine on San Augustin Peak, Organ mountains, New Mexico, with argentite in a sulfide zone near the center of the pegmatite.

ARGENTITE, silver sulfide, has been noted in pegmatite at the Quickstrike and Ben Nevis mines on San Augustin Peak, Organ Mountains, New Mexico.

CHALCOCITE, cuprous sulfide, is a rare mineral at the Deer Park No. 2 mine near Penland and the McKinney mine near Little Switzerland, North Carolina. As a secondary mineral it was found in the School Section and Mica Lode pegmatites of the Eight Mile Park area northwest of Canon City, Colorado.

BORNITE, a sulfide of copper and iron, was found by the writer at the Deer Park No. 2 mine and the McKinney mine near Little Switzerland, North Carolina,

in 1942 in association with chalcocite and chalcopyrite. It has been noted elsewhere at Fairplay, Eldorado County, California; and three miles west of Buntingville, Lassen County, in the same state.

GALENA, lead sulfide, while rare has been collected from a number of localities in small crystals at Portland, Connecticut; massive at the Morefield mine near Winterham, Virginia; at Orange, New Hampshire; and the McKinney Mine near Little Switzerland, North Carolina. Argentiferous galena has been found in the Quickstrike mine near San Augustin Peak, Organ Mountains, New Mexico, in a sulfide zone in the center of the pegmatite.

SPHALERITE, zinc sulfide, is rather rare but has been found in notable amounts in some pegmatites. At the Andrews and Strickland quarries at Portland, Connecticut. Masses up to fourteen pounds have been noted at Newry, Maine. At Conway, New Hampshire, and Quincy, Massachusetts. A sphalerite bearing lens several feet thick extending a hundred or more feet across the pegmatite body was encountered in the McKinney Mine, Spruce Pine district of North Carolina. The sphalerite was intergrown with albite, having replaced the albite.

CHALCOPYRITE, a sulfide of copper and iron, is noted occasionally in small amounts but is rather rare in pegmatite. Massive material occurs at Portland and Glastonbury, Connecticut; McKinney and Deer Park No. 2 mines, North Carolina; Amelia, Virginia; Fairplay, California; and with molybdenite in the Beaver Lake district, Utah. Small crystals have been secured at the Rock Landing quarry, Had-dam Neck, Connecticut. Also noted at the Etta mine, Keystone, South Dakota.

STANNITE, sulfide of copper, iron and tin, is found sparingly in some of the pegmatites of the Black Hills, South Dakota, as at the Etta mine near Keystone.

PYRRHOTITE, a sulfide of iron, is not uncommon in some pegmatites of the Spruce Pine district of North Carolina as at the Chestnut Flat mine. Noted also at Glastonbury, Connecticut, and Grafton, New Hampshire. Hexagonal crystals to

one and one-half inches in diameter were found long ago at Standish, Maine.

COVELLITE, copper sulfide, is very rare but was collected in 1942 by the writer at the Deer Park No. 2 mine near Penland, North Carolina, where it was found in association with chalcocite, bornite, and chalcopyrite.

BISMUTHINITE, bismuth trisulfide, has been noted in small amounts at Had-dam, Portland, Southford, Willimantic, Connecticut. At Topsham, Maine, and Pala, California. Also at Turkey Creek Canyon, Jefferson County, Colorado; at the Bayliss quarry, Bedford, New York; and in Delaware County, Pennsylvania.

PYRITE, iron disulfide, is common in many pegmatites where it is usually the most common sulfide mineral. It is frequently found in tiny cubic crystals but crystals to one-half inch have been secured at the Strickland quarry, Portland, Connecticut. Noted elsewhere at Grafton, New Hampshire; Bowdoinham and Newry, Maine; etc. Pyritohedrons to one-half inch in diameter were taken last summer from the Smith Mine at Newport, New Hampshire.

LOELLINGITE, essentially diarsenide of iron, has been collected from a number of localities in Maine as from Hebron, Auburn, and Paris. Also from Springfield, New Hampshire; the Etta and Hugo Mines near Keystone, South Dakota. Crystals from Centre Strafford, New Hampshire, embedded in triphylite have reached nearly two inches in length as have those from the High Climb mine near Berne, Custer County, South Dakota. Most of these occurrences are closely associated with triphylite in lithium pegmatites.

ARSENOPYRITE, sulfarsenide of iron, has been recorded from Buckfield, Auburn, Paris, and Greenwood, Maine; Conway and Goffstown, New Hampshire; at Leominster and Sterling, Massachusetts; Alexander County, North Carolina; and in the Harney Peak region of South Dakota.

MOLYBDENITE, molybdenum sulfide, occurs not infrequently in pegmatites but mostly in amounts too small for

mining. It has been noted at Berlin, New Hampshire; White Plains, New York; Haddam and Portland, Connecticut; Tunk Pond and Cooper, Maine, where efforts to mine it were made at one time; from the Beaver Lake district, Utah; in southeastern Pennsylvania and elsewhere. It formerly was quite plentiful with beryl and ferrimolybdate in a pegmatite near Calico Mountain in the Antero region of Chaffee county, Colorado. Recently found at the Etta Mine near Keystone, South Dakota.

Simple Oxides (10)

CORUNDUM, aluminum oxide, has not been found as gem crystals in the pegmatites of the United States but it does occur in a few pegmatites. Grayish, hexagonal crystals have been secured on Grape Creek seven miles west of Canon City, Colorado, associated with dumortierite and sillimanite; and also from a pegmatite near Salida, Colorado. Some of the pegmatites of Montana may be classified as corundum pegmatites but there is some difference of opinion as to their origin.

HEMATITE, ferric oxide, at times occurs in granites and pegmatites usually as an earthy stain on these rocks; and rarely as crystals. Good small crystals have been found at Standpipe Hill, Topsham, Maine, while crystals to one inch or larger occur at Florissant, Colorado, with smoky quartz, amazonstone and radiated goethite.

ILMENITE, iron titanite, occurs not uncommonly in pegmatites. It has been noted at Berlin, New Hampshire; Quincy, Massachusetts; Litchfield and Portland, Connecticut; Bedford, New York; near Baltimore, Maryland; at Amelia and Galax, Virginia; southeastern Pennsylvania and elsewhere. Good platy crystals have been taken at some of the localities near Bedford, New York; and Litchfield, Connecticut.

BRAUNITE, oxide of manganese and silicon, has been noted in some of the pegmatites of the Bridger Mountains, Wyoming.

RUTILE, titanium dioxide, occurs frequently in pegmatites in small amounts. It is notably very rare in the pegmatites of New England states and also from

those of Riverside and San Diego counties, California. Some rutile has been recovered economically from pegmatites near Roseland, Virginia. Noted elsewhere at DeKalb Junction and Bedford, New York; Stony Point and many other places in North Carolina; St. Peter's Dome, Colorado; Barringer Hill, Texas; Winterham, Virginia; and in Chester and Lancaster counties, Pennsylvania. The variety ilmenorutile has been found at Mt. Antero, Colorado, and at the Etta mine near Keystone, South Dakota.

PYROLUSITE, manganese dioxide with usually some absorbed water, often forms reniform crusts or coatings upon rocks and is frequently dendritic upon them. Noted in pegmatite at Bedford, New York; near Burnsville, North Carolina; along cleavages in pink beryl at the Chandler mine near Raymond, New Hampshire; and at many other localities.

CASSITERITE, tin dioxide, occurs in many pegmatites of the United States but the economic deposits are few in number. The commonly associated minerals are quartz, wolframite, and scheelite; also often lepidolite, topaz, tourmaline, axinite, apatite, fluorite, native bismuth, etc.; all minerals of pneumatolitic origin. Cassiterite is the chief ore mineral of tin; other tin minerals being very rare.

Many lithium pegmatites of the United States carry cassiterite in small amounts. In the Black Hills of South Dakota it has been mined in a small way chiefly in the Tinton district. Masses up to fifty pounds in weight have been found in the Etta mine near Keystone and also noted from the Harney Peak region of South Dakota where many attempts to mine cassiterite have failed. Some cassiterite has also been mined around Kings Mountain, North Carolina, and Gaffney, South Caro-

Masses to three inches across have been found at Black Mountain, Rumford, Maine; also noted in Maine from Hebron, Poland, Paris, Auburn, Stoneham, Newry, and Greenwood. From Centre Strafford, New Hampshire; Leominster, Massachusetts; Mesa Grande, Ramona, and Oak Grove, California; the Petaca district of

New Mexico and also the Harding Mine area in the same state.

ANATASE, titanium dioxide, has been found in small crystals from the pockets in the granite pegmatite in the Fallon quarry, at Quincy, Massachusetts, associated with aegirite, fluorite, and ilmenite.

BROOKITE, titanium dioxide, has been reported from Mt. Mica, Paris, Maine, and Chesterfield, Massachusetts. Microscopic crystals have been found in a pegmatite south of Almogordo road a mile east of San Augustin Pass, Organ district, Dona Ana County, New Mexico.

BISMITE, bismuth trioxide, is a secondary mineral found coating other bismuth minerals. It probably occurs in pegmatites at Rincon, San Diego County, California, as microscopic crystals associated with bismutite and pucherite. Its crystals are greenish yellow to bright yellow in color.

SUMMARY — ELEMENTS, SULFIDES, AND SIMPLE OXIDES

The native elements are extremely rare in pegmatites with graphite followed by bismuth being most commonly observed. The sulfides with the exception of pyrite are also quite rarely observed in the pegmatites of the United States. Pyrite is among the most frequently occurring sulfide minerals so it is found at numerous localities. Pyrrhotite, loellingite, arsenopyrite, sphalerite, and chalcopyrite are occasionally noted. Sphalerite after pyrite is most often seen while molybdenite is fairly rare. Loellingite appears to be commonly associated with lithium minerals particularly triphylite in the lithium type of pegmatite. Of the simple oxides only cassiterite and rutile have been very rarely mined from pegmatites economically in the United States, though cassiterite occurs commonly as an accessory mineral in small amounts at many pegmatite localities. Ilmenite is occasionally found and hematite and pyrolusite are present only or mostly as stains or crusts along cleavages or cracks in other pegmatite minerals.

Dr. Kenneth K. Landes in his discussion of Pegmatites and Hydrothermal

Veins in the *AMERICAN MINERALOGIST* in 1937 comes to the conclusion that "Granite magmas produce pegmatites and these in turn produce hydrothermal solutions which may precipitate ores of tin, tungsten and molybdenum both in pegmatite and in veins in the country rock adjacent to and for indefinite distances above the pegmatite. Intermediate magmas during their crystallization sequence pass through a minor pegmatite phase before entering the hydrothermal phase. During the latter, gold, sulfides, and similar ore minerals are deposited in whatever pegmatites are present, but mainly in the hydrothermal veins in the overlying rocks." Thus the rarity of these minerals in pegmatites should be expected.

The writer saw a pegmatite near Buena Vista, Colorado, in 1936 said to have been worked for gold but was unable to verify its occurrence there. Gold and sulfide mineralization in pegmatites is very rare but if the pegmatites occur in producing mining districts it is not unlikely that some gold and sulfides might have been deposited in them, and in such regions they should not be overlooked. It is interesting to note that gold with scheelite and typical granite pegmatite minerals has also been found at the Natas mine, South West Africa.

(To be continued)

Saw Several Issues—Now A Subscriber! Editor R&M:

I would like very much to be a subscriber for *ROCKS AND MINERALS*. Having seen several issues, I don't see how anyone interested in collecting or lapidary work could afford to be without it.

Enclosed are \$3.00 as payment for a one year subscription.

Kenneth R. Pelsang
P.O. Box 51
Gales Ferry, Conn.

Oct. 25, 1952

He Borrowed One Issue!

Editor R&M:

Enclosed is a check for \$3 for a year's subscription for *ROCKS AND MINERALS*.

I borrowed one issue from a friend and enjoyed it so much I want to subscribe for it for myself.

M. O. Ortman
Marion, S. D.

Nov. 8, 1952

SECOND ANNUAL CONVENTION

EASTERN FEDERATION OF MINERALOGICAL AND LAPIDARY SOCIETIES

Newark, N. J. — October 9 - 10 - 11, 1952

Now that the flurry and the scurry—and the worry—are all in the past, it can be set down that the second convention and show of the Eastern Federation of Mineralogical and Lapidary Societies at Newark in October was an outstanding success, artistically, socially and financially, and by any other standards that may be mentioned. It was really fine, and set a high mark to match in the future.

From the start of the show the first two factors in its success were apparent. The displays of mineral specimens and polished gems in settings and unmounted, both by participating clubs and by dealers, were bountiful, beautiful and a pleasure to see. In some instances they were assembled in heaps, in others they were spaced in pattern arrangements, or again as single specimens. Everywhere and all the time the exhibit cases and the dealers' stands were surrounded by enthusiastic club members and visitors, admiring Nature's marvels in the mineral world and the results of the painstaking lapidarists in refining beauty in the rough. Everybody talked to everybody else, old friendships were renewed and many new ones were made.

By noon of the second day of the show it turned out that the affair was actually making money. Reports were revised from time to time as one event after another was completed, but the final figure may have been somewhere around \$500 net profit.

Many of you were in attendance and know all this and more, but this is a report for the record; so, at the risk of being somewhat tedious, may we proceed?

Our North Jersey Mineralogical Society joined with the two Newark societies, the Newark Mineralogical and the Newark Lapidary, in sponsoring and arranging the convention.

Our president Bill Aitken as executive vice-president and general manager, has put in many hours of time during the past year to achieve his ambition to make the

convention a notable success. The Federation placed its stamp of approval on his efforts by electing him to its presidency.

Other members of this society who have been working for a year on convention arrangements include Mrs. Borgstrom, Mr. Hayes, Mr. Duncan, and Gene Vitali. They and several other members who assisted, deserve appreciation for the time and effort which they contributed. Albert White, the convention chairman, is also a member of this society, but as president of the Newark Mineralogical Society, is naturally identified with it.

At the annual business meeting of the Federation on the final day of the convention, the delegates from the member societies chose these officers to serve with President Aitken: Vice President, Albert White; Executive Vice President, Col. John J. Livingston of Washington; Secretary, Mrs. Lucy Dallavalle of Newark; Treasurer, James H. Benn of Washington, (re-elected); Historian, Miss Florence Hight of North Jersey.

It was voted to hold the 1953 convention within the metropolitan area, the exact location being left to the decision of the officers of the Federation.

Three new member societies joined the Federation: The Vermont Mineral Society; the Nutley (N. J.) Mineral Society and the Rockland County (N. Y.) Mineral Society.

Delegates from Maine to Miami came to represent their societies and participate in the convention. Dealers in mineral specimens and lapidary materials came from California and Texas and points east; there were guests from Canada and Korea, so that instead of being purely a regional meeting, the convention took on an international aspect.

While our society's exhibits did not win certificates, we have the satisfaction of having presented the only display of the Paterson minerals, and the only display from one locality. Furthermore, this display was made by one man, Gene Vi-

tali, who might have entered it under his own name. He chose instead to credit it to the North Jersey Mineralogical Society, and may we here record our appreciation of his generosity.

The exhibit judges and the convention visitors generally agreed with all of us, that Mrs. Rendell's jewelry and gems are unique in design and excellence of craftsmanship, and one of the judges confided after the judging that the exhibit containing her work and other lapidary work by our society members, came within a very few points of winning a certificate of distinction.

The most valuable exhibit at the show was the group of gigantic sapphires from Queensland, Australia. They occupied a place by themselves and were under constant watch by detectives. One of these stones, a dark blue, has been carved into the much publicized head of Abraham Lincoln. The finished stone weighs 1318 carats, about half a pound, and was cut from a rough weighing 2302 carats. The carving required nearly two years to complete, both because of the intricacies of the portrait sculpture and because of the hardness of the corundum mineral. The Lincoln stone is a masterpiece of art and skill, but not of beauty.

Two black star sapphires from the same locality and four uncut stones made up the whole exhibit, valued at considerably more than half a million dollars. The largest black star cabochon, named "Star of Queensland," weighs 733 carats after polishing, and its sister star is somewhat smaller. Black sapphires are extremely rare.

The convention, like a gem, had many facets, but unlike a gem, the facets differed.

There was for example, the auction sale of minerals donated by individuals, and conducted as additional means of raising for convention expenses. Sales were held twice and were moderately successful.

There was the fluorescent room, commercial to be sure, but a big dark room lined with the minerals which respond in their brilliant colors to ultra violet activation. In addition to the natural mi-

neral this display featured numbers of polished spheres in all sizes, cut from schellite, wernerite, calcite, willemite and other minerals.

There was the grouping of members of this society at the Friday evening lecture on the Chubb crater, arrangements for which were made by the Caspersons, Miss Hight, Miss Viviano and Mr. DeRoo.

There was the dinner on Saturday evening, closing the convention proceedings at the Essex House. During the dinner certificates were awarded to winning displays at the show, door prizes were drawn, retiring officers and new officers took bows, as did committee chairmen of the convention, and a gift was presented to Harry Woodruff of Washington, who had organized the Federation and now retired after two years as its president.

There was the field trip to Franklin, on which we cannot report as we were not present, but the weather was beautiful and the outing must have been fun.

Several individual display items defied classification but added greatly to the attractiveness of the show. Mr. Aitken's big lamp of carved wood and amethystine quartz with its agate-set shade was much admired. The Smithsonian Institution sent a collection of minerals, letters, pictures, spectacles and a quill pen which had been owned and used by Charles Upham Shepard, one of America's pioneer mineral collectors.

One display case was filled with Herkimer "diamonds" owned by Don Hurley, the Herkimer specialist. Another case was filled with the Anderson collection of agate-handled silverware, each handle being different from every other.

B. J. Chromy of Washington, the Federation's retiring secretary, presented a group of Kodachrome pictures of micro-mounts highly magnified. For example, the tiny hematite rosettes often found on Paterson minerals appeared to be larger than eggs.

Of the four lectures on the program, one dealt with minerals, two with lapidary work and one with the geological mystery known as Chubb crater.

Leland Quick, editor and publisher of the *Lapidary Journal*, entitled his talk, "The Second Stone Age," meaning thereby the current age of the amateur gem cutter. He traced first of all the original, pre-historic Stone Age, when humans first threw stones at game to bring it down; how they later learned to get distance and power by putting stones into sling-shots; how they still later began to make and use arrow points and spear points of mineral for both hunting and warfare.

He called attention to the mineral origin of fire through the sparking of flints and how man had to learn to confine it within a circle of stones to make it useful for his daily life. Then came a day when one of these stones became partially melted, and when it cooled, man had a little piece of copper. From then on developed the Age of Metals, and subsequently, civilization.

The speaker paid no attention to the collector of mineralogical specimens, but devoted himself entirely to the cutter and polisher. He presented many statistics on the growth of lapidary societies, especially in the West, and finds that the fever is rapidly rushing East. Likewise, the volume of literature for the guidance of gem cutters has grown from practically nothing thirty years ago to stacks of books, treatises and magazines at the present time.

He quoted figures and estimates on the present and probable population of the United States for the next thirty years. He broke this down by age groups, particularly retired persons and those who will retire, and urged the adoption of hobbies to take up their time. In the West, he said, many large employers of labor are seriously concerned about what their retired employes may do, and have established lapidary shops for them.

Mr. Quick attributes the great interest in agate hunting through the West to the dry, warm climate which permits a great number of field trips per year; also to the sparsity of vegetation which makes it easy to spot likely places for collecting. He said on a recent trip through New England he had wondered how minerals could ever be found under what he called the lushness of the vegetation.

Dr. Frederick Pough, consulting mineralogist, presented a showing of kodachrome slides of mineralogical specimens which he is using to illustrate his forth-coming book on mineral identification, entitled, "Ye Compleat Mineral Cabinet."

He has added several minerals to his list and has eliminated some pictures which were not satisfactory, in the interval since he spoke before our club, and the group now makes a much better showing.

In a preliminary talk he explains the purpose of the book: To make mineral identification more fun and less technical. He puts emphasis on the fact that almost any mineral specimen will need to be distinguished from only two or three others, not from several hundred, and that usually a few simple tests will suffice. He urges use of the blowpipe, both because it is very useful and also because it is a means of enjoying one's minerals, to see what will happen when bits of them are heated.

Dr. Pough said in running recent tests he had discovered that many non-fluorescent minerals will become fluorescent after heating.

Commander John Sinkankas, U.S.N., talked on lapidary work, but from a very different view point than Mr. Quick. Sinkankas, incidentally, is a native of Paterson, cut his teeth on Paterson minerals and as a boy, used to be a frequent visitor to Paterson Museum. During his trips abroad he has not forgotten the Museum to which he has given several mineral specimens from far corners of the world.

The subject of his talk at the convention was "Crystal Structure and Its Effect upon the Process of Gem Cutting."

Since all crystalline minerals have definite patterns of atomic and molecular structure, he argues it is only common sense to take note of each mineral's distinctive pattern and work with it instead of against it—or regardless of it—when attempting to cut and polish a gem. Thus, he contends, many rejects and disappointments will be avoided and the amateur cutter will be rewarded with good specimens of his art. Commander Sinkankas should know; his display of jewelry,

unset cabochons and faceted stones took two first places and one second at the Newark show.

He used several ball models to illustrate his lecture, showing how atoms may be closely bonded in all directions in one mineral; firmly joined in two directions and weakly in the third in another mineral; widely spaced in some other mineral; completely lacking in pattern in amorphous minerals, like opal; and from knowledge of these peculiarities he explained how the cutter will proceed in one manner with one stone, and differently with another. In other words, the lattice structure accounts for such factors as cleavage, hardness, refraction and others on which good gem cutting, or the lack of it, depends.

He is preparing a book embodying his thesis, and is doing something which needs to be done; namely, to relate scientific mineralogy to amateur gem cutting. The two belong together and there is no need nor reason for them to be in separate compartments.

The final lecture, on Chubb Crater, had no concern with either mineralogy or gems. As Dr. V. Ben Meen, explorer of the crater said, he could not see why he had been asked to give it. His audience was willing to waive the point, however, and for nearly two hours enjoyed motion pictures in color of Dr. Meen's two trips to this newest wonder of the world.

Chubb Crater is an immense round hole in the surface of the earth, situated on the northern tip of Quebec Province between Hudson Bay and Hudson Strait. The round purple-blue lake which the crater encloses bears no resemblance to the myriads of irregularly shaped lakes in northern Canada, and this difference was what first attracted the attention of Fred Chubb, a Canadian prospector for whom the crater is named.

In 1950 he saw an air photograph of the region and had dreams of an extinct volcano near which there might be a new diamond field. He took the photograph to Dr. Meen, director of the Royal Ontario Museum of Geology and Mineralogy, for his opinion. Dr. Meen's knowledge of Canadian geology led him to discount the

diamond theory, but he saw at once the possibility of a meteoric crater. The two men made a flight to the crater in 1950 and saw enough to fire Dr. Meen with keen desire to test his theory. In 1951 the National Geographic Society joined the Ontario Museum in sponsoring a scientific expedition of six men led by Dr. Meen, to study the crater and such animals, plants, fish and birds as might be in the area. Sub-arctic conditions limited their stay to a month, but on the last day of the month they believed they had found the evidence they had been seeking, of buried meteoritic fragments somewhere under the eastern rim of the crater.

Working under most difficult conditions of weather and terrain everywhere in the area, the expedition found enough negative evidence to prove that the crater is not of volcanic origin, and that it is not a glacial sink-hole. Enough circumstantial evidence of meteoric origin was at hand; everything needed except some actual bits and pieces of the meteor which might have created this great hole, the largest of its kind yet discovered on earth. By magnetic calculations, the scientists think they have only to remove some thousands of tons of granite to find such material. Dr. Meen hopes to go back some day and do more work there.

Although the expedition felt that perhaps they were the first to have been on the ground at the crater, they found that others had been before them. One day they came upon some small circles of stones which looked as if they might have been used to anchor tents, although the circles were not more than six or eight feet across. Digging into the sparse soil within the circles, the men found evidence of ancient fires on smoke-blackened stones, and a few bone implements. After returning home the scientists found that Arctic Eskimos knew of such camp sites and said they had belonged to the "little people," who had come and gone long before the Eskimos.

Marion Brown Casperson
to the November 13 Meeting
of the North Jersey Mineralogical
Society, Paterson Museum,
Paterson, N. J.

THE GROTTO AT WEST BEND, IOWA

By ROY G. GROSSMAN

211 N. Park Avenue, Batesville, Ind.

We had a wonderful vacation last summer. And we were happy to see the Editor of R&M at the Mid-West Convention held at Macalester College in St. Paul, Minn.

One of the places we visited during our vacation was the most beautiful and interesting Grotto at West Bend, Iowa. Here at the Grotto one will see the most beautiful and one of the world's largest collection of minerals—from every state in the union and from the four corners of the earth. Everyone who loves beautiful minerals should try to visit the Grotto—for the Grotto is made up of beautiful minerals all artistically arranged.

After we left the Convention, we headed for West Bend where we met the founder and builder of the Grotto, Father P. M. Dobberstein, who is also Pastor of St. Peter & Paul's R. C. Church.

Father Dobberstein is in his 80's but he hopes, if the Lord permits, to complete the beautiful Grotto within the next few years.

The small town of West Bend in Palo Alto County of Northwestern Iowa, is about 15 miles southwest of Algona, Iowa. For those interested, I would advise them to stay a few days and really to look the Grotto over. Rooms are available at

the Franklin Hotel in West Bend, if 2 days notice is given. Guides are available to take you through and explain as you go—then you will want to go back and look and look at all those beautiful minerals, crystals, and gems which encrust the Grotto on all sides. In addition, ores, fossils, corals, and shells are also present.

To obtain all these beautiful specimens, Father Dobberstein has visited every state in the union, travelling over 100,000 miles; over 97 carloads of carefully selected material have been used to date. The estimated cost, when finished, will run over one million dollars just for the material alone; Father Dobberstein's labor is given free of charge and he has been working on the Grotto for over 35 years at 10 hours per day.

One of the most beautiful scenes is the "Chapel of Bethlehem" which is located inside the church on the north wall, setting back inside the wall. Just behind the crib in the background is one huge amethyst crystal cluster, weighing over 300 pounds and valued at \$3,000; it comes from the Andes of South America.

From 70,000 to 80,000 people from all over the country visit the Grotto annually.

REAMER HONORED BY NEWARK SOCIETY

The Newark Mineralogical Society dedicated its 294th Meeting (held Sunday, Nov. 2, 1952) to its retiring secretary as Louis Reamer Day. The Meeting was held in the Newark Museum, Newark, N. J.

Louis Reamer, one of the East's most distinguished mineralogists, is the only surviving founder of the Newark Mineralogical Society which was founded in 1915; the Newark Society is the third oldest mineral club in the United States. As he stepped from office after 10 years of faithful service, Mr. Reamer was made a life member and was presented with a diamond-set gold lapel pin of the organization.

ROCKS AND MINERALS congratulates



Mr. Reamer on the honors he so richly deserves and extends to him best wishes for the future.

Mr. Reamer resides at 336 Elizabeth Ave., Orange, N. J.

A SIMPLE MINERAL CABINET

By E. T. MCCARTHY

2280 Middletown Road, Hamilton, Ohio

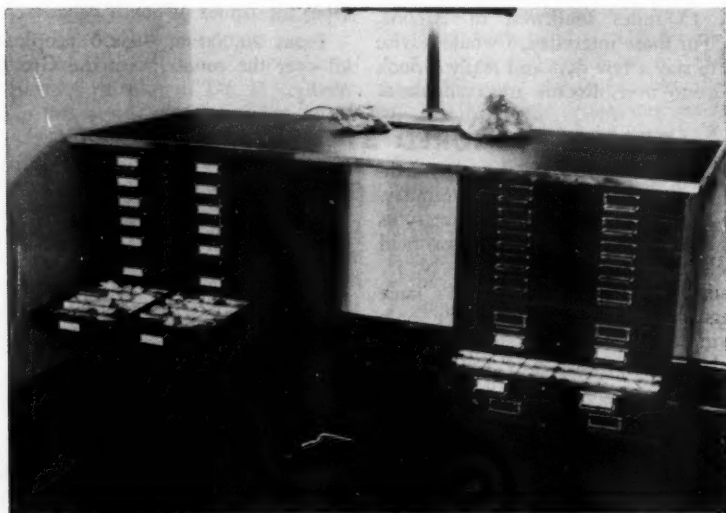
The pages of **ROCKS AND MINERALS** are filled with accounts of where and how mineral specimens are found but to date I have seen nothing therein as to where and how they are kept thereafter. Probably in cigar boxes, shoe boxes, miscellaneous cartons, bureau drawers, desk drawers and in all sorts of containers and places. Perhaps the little woman would take more kindly to the hobby if specimens did not clutter up the place.

The enclosed photograph shows fairly well how I solved the problem to my satisfaction. There are four steel filing cases measuring $11\frac{1}{4}$ " high x 19" wide x 16" long. Each has five shallow drawers— $1\frac{3}{4}$ " deep, and each drawer is divided into 36 compartments about 2"x3". Under each pair of cases is a wooden base to bring the top to the standard table or desk height of 30".

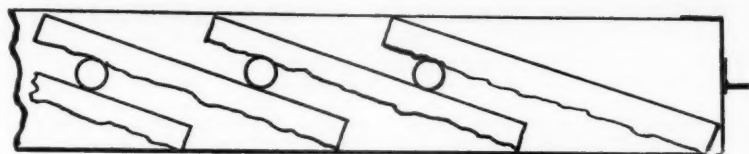
The top is $\frac{5}{8}$ " plywood 60" x 27", covered with dark green linoleum and finished with a chromium plated binding

strip around the edge. The top carries four $\frac{3}{16}$ " x $\frac{3}{4}$ " angle iron battens secured to the lower side by flat head bolts (not screws) to prevent warping and to provide means for attaching the top to the steel cases. Between the pairs of cases a space of slightly over 19" has been left to accommodate two more cases when and if the collection grows that much. As the top overhangs the steel cases at the rear by about 10" there is space underneath for two or three shelves or a glassed-in cabinet for larger specimens.

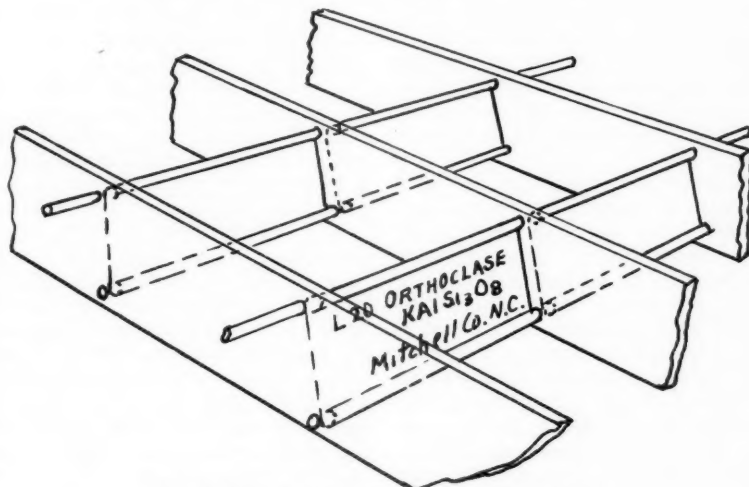
Of course wooden cabinets may be used but steel cases are stronger and more durable and the drawers do not stick. The drawers may be partitioned as required to accommodate the standard size of specimens one may adopt. There is some advantage in using small cardboard boxes of uniform size in place of permanent partitions to make compartments. As the collection expands the boxes can be read-



Mr. McCarthy's Mineral Cabinet.



Sectional side view of drawer for flat specimens.



Detailed section of drawer for ordinary specimens.

ily rearranged. Details of the partitions are shown on the sketch. Light gage sheet metal such as tin plate or aluminum, which can be readily formed by hand, is used for the label holders which constitute the crossways partitions. The fore and aft separators are $\frac{1}{8}$ " lucite or plexiglas. Steel rods of $\frac{1}{8}$ " dia. welding rod pass through holes drilled in the sides of the drawers and the lucite separators and through the rolled top and bottom edges of the label holders. The bottoms of the drawers are covered with blue velvet or corduroy.

The upper sketch shows the arrangement of 3" x 4" x $\frac{1}{2}$ " flat, polished rock specimens in a drawer. These are sawed to size, one 3" x 4" face polished and the other left rough in its natural condition. The small circles indicate $\frac{3}{8}$ " dia. hard wood rods extending horizontally from side to side of the drawer. At each end the

rod is supported by a small nail driven into a hole drilled through the side of the drawer and a short distance along the axis of the rod. The rod is dowel pin stock sold at some lumber yards and obtainable at any pattern shop. With this arrangement any specimen may be easily removed, the drawer space is fully utilized, and specimens cannot touch or mar each other. A label, typed on a strip of paper, is cemented to the upper $\frac{1}{2}$ " x 3" face of each rock. The inclination of the specimens could be reversed to make the labels face forward for easier reading.

The cabinet can be easily taken apart for moving. Each drawer full of minerals weighs less than 20 pounds or just about 100# for each of the four sections. This is not an excessive floor load or difficult for one man to handle when he moves to another apartment.

AUSTRALIAN-AMERICAN MINERAL EXPEDITION PART I

By **WILFRED C. EYLES**
Yermo, California

I had left my desert quarters at Yermo, Calif., far behind, as you read this, after first stopping over in good old San Francisco to call on several of my old time mineral friends. Then on to Portland, Oregon, where I changed over to a Great Northern train which took me through Seattle, then to Vancouver, British Columbia, where I stayed for a few days before starting the long journey by air to Australia.

At last the taxi arrived to take me to the Vancouver Airport. There was a touch of winter in the cool damp air, a slight mist or rain was falling, but at the airport after the necessary baggage was weighed, tickets checked, etc., I boarded the deluxe plane, Empress of Sydney, of the Canadian Pacific Air Lines for the trip. Courteous good looking stewardesses made me and my fellow travellers comfortable with sandwiches and champagne. I took a view from the plane; we were passing over beautiful lights of a large city which the stewardess informed me was Seattle. Being somewhat of a navigator, myself, this had me wondering, for we should have been flying more westward than south. The stewardess then informed me that owing to severe head winds out over the Pacific Ocean, we were going off our course—to San Francisco and would refuel there. We passed over Portland, Oregon, and soon arrived over Oakland, and then San Francisco. It was nice and clear, with not a cloud in the sky, thus making the sight of these cities with their bright lights from 8000 feet up a sight never to be forgotten.

After refuelling in San Francisco, which took about an hour, we were again off and this time out over the great Pacific Ocean, heading for Honolulu, Hawaii Islands, where we arrived next morning. After a stop over of a day and a half, (we were all quartered at the famous Surf Riders Hotel), we departed for Canton Island, which is just an atoll in the ocean large enough for the various planes to land and

refuel. After spending an hour here, which was enough, as there is little of interest to enjoy, we were off for Nandi, Fiji Islands.

In Fiji, one is really in the South Seas, a beautiful spot, populated with grand native people who love to see you, meet you, and talk with you. The airport here is 17 miles from the hotel where we were all taken to enjoy cocktails, lunch and a drive around to see local sights and to meet some of the native Fijians. Mangoes, bananas, avocados, breadfruit and a host of other tropical fruits abound everywhere. At the local chief's house there was a huge turtle on his back in the yard, so I figured the chief and his family were soon to enjoy terrapin soup for dinner. It was here at Nandi, I learned, that cats eyes were first introduced into the United States. I found a dozen of them in a small Hindu shop which I purchased. On making further inquiries I was told that during the war our American lads had a sea plane base at Nandi and it was from here that they sent cats eyes home. These cats eyes were found on the beaches like any other sea shell. As we were here only for the day, it did not give me any time for collecting, neither did it lend itself for me to interest a native to collect some for me for they just do not understand our wants or wishes in that respect. So to my sorrow I had to pass up the opportunity to get more.

After a grand meal at the small local hotel, after sightseeing, we were all taken to a local merchant's home. This was a very elaborate and tropical house, with hardwood floors, and fitted with a bar, etc. The gentleman it seemed was the local druggist, (they are all termed Chemists here). When we arrived at this luxurious home, we were met by a bevy of beautiful Fijian girls, all barefooted and dressed in grass skirts who placed leis of flowers around our necks. We were escorted to our seats around the large room. In one corner about a dozen native boys

and men were strumming soft music on guitars and ukeleles. This was a fine reception with the lights turned low and girls serving cocktails. The girls also danced the Hula, which was interrupted at times by the native boys and men doing their own dance. There was never a dull moment between drinks and dances, as the Canadian Pacific Railway spares no expense to see that we enjoy the trip. It soon became midnight, cars were waiting at the door, we said goodbye to our grand host, Mr. Adams, and again we were soon boarding the huge Empress of Sydney.

In the morning, land appeared ahead, it didn't take long to be over it, and below was the countryside outside of Auckland, New Zealand. What a paradise on earth from the air for below was the greenest rolling hills I ever saw. Beautiful red tiled roofs of the prosperous farm houses showed us the people were indeed prosperous. Thousands of Merino sheep grazed on the rolling hills, the whole setting gave one the impression that the sheep were out on golf courses, one could not describe it in any other way. We soon landed but stayed only long enough to refuel and to say goodbye to some fine fellow passengers whom one soon gets acquainted with on such a trip.

The huge Empress refuelled (mechanics making sure every last detail was right) and away we went for Sydney, Australia. After a six hour flight, we came in over Botany Bay (5 miles south of Sydney), where Captain Cook first landed in discovering the place. As far as the eye could reach were lagoons, lake-like in their appearance, then red tiled roofs stretched as far as one could see in every direction. It was with regret that I at last had arrived. As far as I was concerned there could be no end of such travel. I had to look back, the many times in years gone by, when it took me five days to Honolulu on the fastest steamers, and 21 days from San Francisco to my destination, Sydney, and here we were in four days with mostly sight-seeing stopovers. Yes, the world moves on.

Arriving here now in the middle of summer after leaving the middle of winter, I found Christmas and the New Year

holiday season in full swing. It was just as if our Christmas, etc., came on the fourth of July—crowds of people swarmed the streets, filled the stores, and to me it was twice as bad as even in our Los Angeles. I found I could not get to Melbourne (500 miles away) for 14 days. I also found I could go nowhere without a reservation and every reservation was jammed full till after New Year. That was that; so I contended myself with going to the two fine mineral museums, here in Sydney. One is the main museum, the other a Mining Museum, where the building takes in a city block. Here I saw every mineral produced in this big continent, not only were the ores displayed and very nicely arranged, but described as well. The minerals were shown from their rough mined state to the finished products. In the main museum, I observed the finer crystal specimens, cerussites weighing a 100 lbs., stoltzites by the dozen, embolities (all from Broken Hill). Cerargyrites, proustites, and every conceivable mineral one would think of that came from Australia. All the other great mining places like Lithgow, Cobar, Ballarat, Bendigo, Calgoorie and Coolgardie were all fully represented, also Moonta, South Australia, which produces the coppers like our Bisbee, Arizona. As there are few mineral collectors in Australia, as we know them in the United States, it's difficult getting any low down as we say over there. No one knows what we mean when we talk about collecting; maybe they say, "just another crazy American over here." As yet no mineral collecting is done, the main interest is the gem stone field, like sapphires, opal, etc. Sapphires abound with opal in the jewelry stores. They are what we term tops, expensive, yes; for good ones, as the domestic market absorbs most of the output, which I can assure you is extensive.

(To be continued)

Editor's Note: Mr. Eyles, a mineral and gem dealer of Yermo, Calif., plans to be a year in his native Australia collecting fine minerals and gems. Arrangements have been made with ROCKS and MINERALS to cover this expedition from start to finish. Watch for future releases. See his ad on page 88.

THE LARGEST HERKIMER "DIAMOND?"

By LT. BILL F. FRANCIS

Box 718, 1300th Tng. Sqd., Mountain Home AFB, Idaho.

Many, many thousands of those splendid quartz crystals, commonly called "Herkimer Diamonds," have been found in the Little Falls Dolomite of Herkimer, Montgomery and other counties of up state New York. As far as I know, the world's largest, as well as several thousand of the smallest, belong to Don Hurley of Little Falls, N. Y.

I learned of this collection on a Friday afternoon early last Spring. I had a weekend pass from the Griffiss Air Force Base Hospital, Rome, N. Y., and a big yen to dig crystals in my favorite Herkimer County locality, near Middleville.

As I drove along, I mentally explored the locality and planned to dig in an area which had seemed promising on my last trip. Upon arrival I was considerably disappointed to see a long, lean pebble pup working the locality in the exact area I had planned to dig. I was even more annoyed when I saw that he had just broken into the biggest pocket of Herkimers I'd ever seen. However, a rock hound is always thrilled to see a pocket exposed, even if it isn't his own, so I introduced myself and prepared to help him. The pebble pup turned out to be Claude Smith, author of the "Let's Hunt for Herkimer Diamonds" booklet. Later, after the pocket was cleaned out, we drove to Little Falls and he introduced me to Don Hurley.

Don had the "misfortune" to be born and reared in Herkimer County, and like many of the boys of that area, he began early in life to collect and swap the stones. He was in particular inspired by his Uncle Dr. John Hurley, who had an unusually fine collection, a part of which is now a permanent display in the Public Library of Little Falls.

As his collection and knowledge of minerals grew, Don began to specialize. For example, the evenings of one entire winter were spent in collecting microscopic crystals, until he had three thousand in a tiny glass vial.

This selection was made from a water

pail full of the diamond bearing earth of Diamond Hill, near Salisbury, N. Y. The dirt was carefully "panned" to remove as much of the soluble material as possible, then spread out in tin trays and placed on top of the furnace to dry.

The larger crystals and stones were removed with tweezers. After this Don electrified a steel needle by running it through his hair. He would then pick up these tiny crystals with the needle, under a microscope count the ones clinging to it, mark the number in his score book and then scrape them into the vial. His collection now contains several such vials, each having three thousand crystals.

After he had completed his microscopic collection, he began to wonder who had the biggest crystal of this type. He questioned other local collectors, old timers of the area, and wrote to various authorities.

This research brought forth many stories of large stones. Everyone seemed to know of someone who had a neighbor who had a friend who had seen one, but there was little concrete evidence. After unsuccessfully trying to ascertain the truth of these stories, he finally struck pay dirt.

Ward's Natural Science Establishment of Rochester, N. Y., wrote that they had purchased an old Troy, N. Y., collection which contained a huge Herkimer Diamond. Was Mr. Hurley interested in purchasing it? Mr. Hurley was and did.

Since that time his famed collection of perhaps fifty thousand Herkimers of all sizes, shapes and with a surprising variety of inclusions has been suitably crowned by this eighteen pound crystal.

The crystal, as is shown in the photograph, is of typical double termination. It is, however, badly fractured, due probably to years of exposure to the elements, and does not have the sparkling clearness so characteristic of the Herkimer quartz. Its approximate measurements are: from termination to termination—ten inches; cir-

cumference—twenty four inches; diameter—seven inches by eight and one half inches.

It is hoped this article will inspire other collectors to search diligently for other and perhaps larger specimens.



Balanced on the knee of Lt. Francis is an eighteen pound Herkimer "diamond," believed to be the world's largest. In his hand is a tiny glass vial containing three thousand miniature Herkimers.

World News on Mineral Occurrences

Items on new finds are desired. Please send them in.

Abbreviations: xl—crystal

xld—crystallized

xline—Crystalline

ALABAMA—J. R. Lee, Bridgeport, Ala., has donated an interesting specimen of grayish chalcedony associated with brownish chert, which he collected near Bridgeport, Jackson Co., Ala.

"It's local material," he writes us.

ARIZONA — The following letter, dated Oct. 20, 1952, comes from Louis W. Vance, 1002 Palm Ave., South Pasadena, Calif.

"I am sending you separately a package containing several specimens that I think you will find interesting. Perhaps you would like to mention them in "World News of Mineral Occurrences" in R. & M.

"The specimens are calcite after glau-berite from a newly discovered locality in Yavapai County, Ariz., on the Verde River near Camp Verde, Ariz. This locality should not be confused with the well known deposit mentioned in Dana's Textbook. While both localities can properly be described as "being near Camp Verde" they are several miles apart and are separated by the entire width of the Verde River Valley. The Geological setting also is quite different.

"The discovery was made by Mr. and Mrs. John Powell of Pasadena, Calif., while investigating some Indian ruins on top of the limestone cliffs bordering the Verde River in the summer of 1951. They brought quite a few of these interesting pseudomorphs home. I was very much interested so another trip was arranged and early this summer we visited the locality and did some more collecting—also a lot of speculating as to how this unusual pseudomorph happened. They occur in a rather impure limestone (!) which weathers more readily than the pseudomorphs freeing the latter which may be picked up on the hillside.

"Our theory is: The glauiberite crystallized in the mud of a drying lake (or an

arm of the ancient sea). This mud was perhaps high in lime content. At some time after the mud had partly, but not completely, hardened the glauiberite was dissolved and removed leaving sharp crystal cavities. Solutions high in calcium carbonate slowly percolating through the mud converted it into a rather impure limestone and filled the glauiberite crystal cavities, thus forming these interesting pseudomorphs.

"The reason we believe the mud had not completely solidified at the time these pseudos were formed is that some of the crystal edges are slightly curved as if the matrix had sagged somewhat before the introduction of the calcite. You will note this curvature on some of the specimens I have sent. However, the majority of the crystals are quite sharp."

The crystals are most interesting. They are grayish in color, about 2x2 inches in size, and are of excellent quality.

Two very attractive specimens showing chalcopryite as small xls embedded in grayish cleavable calcite have been received from C. V. Mills, 34 E. Sunnyslope Lane, Phoenix, Ariz. The calcite fluoresces reddish-pink under the long wave lamp. A letter from Mr. Mills, dated Oct. 30, 1952, tells us about the occurrence.

"Am sending you specimens of chalcopryite in fluorescent calcite which may be of interest. These were collected in Yavapai County, East of Prescott, Arizona.

"They were taken from a boulder of solid calcite, about twenty inches in diameter. The chalcopryite occurs in a thin band about two inches from the outside edge. One of the specimens shows the cross-section of the vein while the other is broken along and parallel to the vein or band.

"The whole specimen is fluorescent but the material near the outside edge of the

boulder shows a much deeper pink than at the center."

ARKANSAS—Azurite occurs in the copper mines at Tomahawk, Searey Co., Ark.

A letter dated Sept. 18, 1952, from Mrs. John McCarty, 5824 E. 12th St., Kansas City 3, Mo., gives some discouraging news about the cinnabar mines north of Murfreesboro, Pike Co., Ark.

"Did you know that the government built a dam near Murfreesboro that has almost completely covered the cinnabar mines? And from all the information I could get from Mr. Millar (owner of the diamond mine in Murfreesboro) there was no point in it at all, and no reason for it."

CALIFORNIA — Alton A. Parsons, 2433 Hill Street, Huntington Park, Calif., has sent in a clipping taken from the Oct. 20, 1952, issue of LOS ANGELES TIMES. The clipping refers to a rare variety of asbestos being mined in California and reads as follows:

"Stockton, Oct. 19—Powhatan Mining Co. recently shipped a carload of antigorite, a rare type of asbestos, from a deposit near Jamestown, Tuolumne County, to its plant in Baltimore, Md.

"Asbestos experts report the property contains the only known antigorite ever found in America. The mineral is mined in only one other part of the world, the isle of Cyprus."

Al Thrower, P.O. Box 305, Santa Cruz, Calif., has sent in a few minerals which he collected recently. Two are attractive specimens showing drusy colorless calcite xls on white limestone; the locality is Highway # 1 near Monterey, Monterey Co.; 3 nice chalcopryite masses (pure, banded, and with pyrite) from the old Keystone mine at Copperopolis, Calaveras Co.; drusy quartz on bluish-gray chalcedony from the New Idria mine, San Benito Co.; and a banded grayish and white dolomite (fluorescences brownish-orange under long wave lamp) from the mercury mines at Almaden, Santa Clara Co.—all localities in California.

In the December 1947 issue of R&M, appeared a most interesting article, "Fulgurites and Physiographical Memoranda of San Clemente Island, California," by M/Sgt. John O. Griesbach (pp. 1119-1121). A letter dated Nov. 8, 1952, from Mr. Greisbach, 638 State St., Madison 5, Wisc., gives additional information on the fulgurites.

"I must correct an error once sent to you and which was published in R&M. The "fulgurites" of the deflated area are now recognized as concretions of a very unusual nature. They resemble fulgurites so much, except for the hardness and glassy character, that they might well be called "pseudo-fulgurite" concretions. These concretions are and were found as tubular aggregations of "sand" which had enclosed and buried a variety or varieties of xerophytic woody shrubs, as dunes migrated across a part of San Clemente Island. The chemical reactions of salt-laden moisture from the sea-air, and decomposition of the buried plant parts were sufficient to set up a reaction about the plant parts so the carbonate materials of the "sand" were partially dissolved, altered, and re-deposited as a cement which now binds the remaining adjacent "sand" together as a "fulgurite"-form concretion.

"I have finally been able to gather a few specimens of these interesting geological oddities, through the efforts of a friend who is again on active duty with the Marines. He, knowing of my own efforts to get out to San Clemente Island two years ago when I was recalled to duty, has very kindly sent me a selection of them. One was of the usual corn-stubble variety as described previously, while the other two were as large as are commonly available, about 16 inches long and 1/2 inch in diameter; 8 inches long and 3 inches in diameter."

COLORADO — Acicular colorless xls of calamine in cavities of geodiferous limonite, have been found in the mines at Leadville, Lake Co., Colo.

CONNECTICUT—Very nice greenish platy xls of cyanite have been found at Barkhamsted, Litchfield Co., Conn.

DELAWARE—Chrysotile asbestos was once found in serpentine near Wilmington, New Castle Co., Del.

FLORIDA—In the last issue was printed a most interesting letter received from Capt. F. J. Smith, P.O. Box 905, Mayport, Fla. Here is another, dated April 28, 1952:

"I have about 1200 to 1400 pounds of fossil bones and conglomerate (with pieces of fossil bone in it)—all collected near Mayport, Duval Co., Fla.

"Some 50 years ago the bar in the St. Johns River here in Florida had only about 10 feet of water over it at high tide. They built jetties 2 miles long and filled in behind and ever since have been making dikes and jetties along the river, straightening the river and deepening it. Now both sides of the river in nearly every place is built-up land, mostly sand and oyster shells. Now it is 40 feet deep at the bar so the largest plane carrier can come in to Mayport navy base just inside the jetties and 34 feet at low tide to Jacksonville. In the dredging last year down to 34 feet, they got down to rock and dredged up millions of cubic yards and this material being so heavy they were afraid to dump it near the river bank for fear it would sluff and get back. So they dumped the dredged material from $\frac{1}{2}$ to 2 miles back in the marsh. Here, just back of Mayport, they pumped up a pile of sand, mud, shell, and rock nearly 2 miles long, 25 feet high, and nearly $\frac{1}{4}$ mile wide for an extended runway for big jets from the Navy Base. In all this huge mass of dredged material, very little fossils are to be found and the fossils that are found occur in only one place, nearly 2 miles from the river. The old spoil banks along the river are almost barren of fossils; it is only in the newly dredged material which comes up with the rock that produces fossils."

GEORGIA—The following item relates to the finding of the largest gold nugget to be discovered in Georgia in the last 100 years. The item is taken from the Georgia Mineral Society NEWS LETTER, September-October 1952, p. 129 (Dr. A.

S. Furcron, Editor, 425 State Capitol, Atlanta 3, Ga.)

"On Friday afternoon at 3 o'clock, September 12, a lady came into the office of the State Department of Mines and asked the Editor of the NEWS LETTER if he would identify a little rock she had. She fished into her pocket and pulled out one of the biggest gold nuggets to be discovered in Georgia in the last 100 years.

"Mrs. E. S. Lanier, 1131 Austin Avenue, NE., Atlanta (Ga.), was the lady, and she had been fishing on Duke's Creek in White County (Ga.) with her nephew, Jere Chambers. Mrs. Lanier likes to pick up pretty rocks, and as she and her nephew discussed the subject while returning from the fishing trip, the young man picked up the gold nugget from a rut in the graveled road, remarking: "Here's a pretty rock."

"The discovery was made on a country road about 4 miles north of Cleveland, in White County, at 9 a.m., Wednesday, September 10. Gravel from both Duke's Creek and the Chattahoochee River had been used on this road. This locality has been a famous placer mining district since the history of gold mining in Georgia, representing a part of the valley of Chattahoochee River and its tributary, Duke's Creek, formerly called Nacoochee River.

"Jere is 17 years old, and has just enrolled in North Georgia College at Dahlonega. You can still pick up a nugget now and then around the square in Dahlonega—thus this discovery should give Jere a good start at college in the gold country.

"The nugget was weighed in the assay office of the State Department of Mines, Mining and Geology, and is 4.46 troy ounces or 89.2 dwt., giving it a gold value of \$156.10. Its measurements are $3\frac{3}{16} \times \frac{1}{2}$ inches."

IDAHO—The following two items are taken from a letter, dated Nov. 4, 1952, received from G. Elmo Shoup, P.O. Box 756, Salmon, Idaho. The first item reads:

"A strike of new cerium material assaying as high as 38% cerium oxide was

made a few weeks ago on the East Fork of Spring Creek, Mineral Hill district, Lemhi County, Idaho. The mineral is bast-nasite, a greasy, wax-yellow fluorcarbonate of cerium.

"Oscar Westfall and Elmer Hagle are the finders and a deal was made immediately with the John R. Simplot Company of Boise, Idaho, who at this time are developing the highly radioactive vein.

"A claim-locating rush is also in progress in the Mineral Hill district.

"G. Elmo Shoup first presented the ore to the Denver branch engineers of the A. E. C. and the Lindsay Light and Chemical Company, West Chicago, Ill."

The second item reads:

"Travelers who stop at the Suncrest Cabins located where one enters Salmon, Idaho, from the south # 93 highway, experience the thrill of looking over a large collection of cut and polished petrified wood, geodes, and gems to be found in the mountains of Lemhi and Custer Counties of Idaho."

ILLINOIS—Nice small black flakes of biotite have been found in pebbles and small boulders of gray granite at the soft coal mines at Wilmington, Will Co., Ill.

INDIANA—The following item was submitted Nov. 22, 1952, by Kurt Lamber, 701 E. 21st St., Indianapolis, Ind.

"There is a very good place for finding fossils located about 2 miles north of Bloomington, Monroe County, Indiana. The locality is across the highway (Indiana 37) from a Marathon filling station. Behind the station is a large limestone quarry—across the road the bank is covered with fossils."

IOWA—"Nice yellow jasper pebbles have been found on our farm here in southeastern Iowa," writes Mrs. Frank Krogmeier Sr., RR. 2, Ft. Madison, Lee Co., Iowa.

KANSAS—There is in the collection owned by George M. Emrich, 210 Massachusetts, Winfield, Kans., a nice dark brown petrified wood pebble which he had found in a brook bed north of Ottawa, Franklin Co., Kans.

KENTUCKY—Bob Barnes, 3930 Brookfield Ave., Louisville 7, Ky., has been finding some quartz geodes (lined with quartz xls) along the shore of Lake Cumberland, a new TVA lake, 10 miles south of Jamestown, Russell Co., Ky.

LOUISIANA — Dark brown smoky quartz xls, small but very interesting and of good quality, in small groups and loose doubly terminated, have been received from T. E. Bryant, Junction City, Ark. (4 doubly terminated xls are of micro size—1 smoky and 3 colorless rock xls).

* Junction City is on the Arkansas-Louisiana line. The locality for the xls is 8 miles east of Junction City and about 1 mile south of the State line in Union Parish, La. (just south of the little community of Lockheart, La.) From Mr. Bryant's letter of Nov. 21, 1952, we read:

"The crystals were found in a petrified log which had been exposed in a road cut and lying in red clay and sand. The center of the log, for about 1½ feet, was a solid mass of crystals and sand with clay and some small pieces of biotite. I have a sufficient number of these crystals for a beautiful window display." (Mr. Bryant is a jeweler in Junction City).

These are the finest crystals we ever saw from Louisiana.

MAINE—The following letter, dated Oct. 20, 1952, comes from Francis Schiller, 75 Lincoln Ave., Rumford, Maine. It reads:

"You may be interested in the explanation of a coin-imbedded-rock that was found by a wood-cutter on a remote mountain named Siberia Mt. in the vicinity of the small village of West Peru, Maine. This village is 7 miles south of Rumford and the mountain is located in famous Oxford County, the lode of Mt. Mica tourmalines.

"The rock was brought to me for examination and I was puzzled why the copper coin had not melted when it became imbedded. I knew the matrix rock was not local material and it didn't appear to be a clinker or residue from a furnace. The coin was in good condition and was

dated 1872. The words "Vittoria Emanuel II and a likeness of a king was very easy to discern. The date was on the underside of the coin and was not discovered until the matrix rock was broken open and the coin removed.

"The mystery was heightened by the fact that there are no old farms or any inhabitants of cabins in the area where the coin was found. Who left it there? Why?

"I asked for explanations through our weekly paper, THE RUMFORD FALLS TIMES."

A clipping from the TIMES of Oct. 16, 1952, was also received from Mr. Schiller. The clipping states that the coin-imbedded-rock is a souvenir sold in Italy (probably from famous Mt. Vesuvius where guides frequently imbed coins in hot lava for tourists). The only mystery is who left or lost the souvenir on Siberia Mountain.

MARYLAND—Nice masses of white, silky fibers of amphibole asbestos have been found at the Jenkins asbestos mine, Pylesville, Harford Co., Md.

MASSACHUSETTS—A mineral, new for Massachusetts, has been found by John E. Kitson, 30 Briggs St., Easthampton, Mass. The mineral is hemimorphite and the locality—Lane trap rock quarry near Westfield, Hampden County.

"It occurred as small powder-like spots generously sprinkled over prehnite. In appearance like common table salt shaken on a dark green vegetable," writes Mr. Kitson in his note dated Oct. 29, 1952.

Samples of the mineral had been sent to George Q. Hill, Dept. of Mineralogy, Harvard University, Cambridge, Mass. In his letter dated July 14, 1952, to Mr. Kitson, Mr. Hill wrote—

"Thank you for sending the 2 specimens of hemimorphite for determination. This mineral is new, as far as I am able to learn, for Massachusetts.

"The 2 specimens you sent were turned over by Prof. Frondel to Miss Mary Mrose who made a powder picture determination about 2 weeks ago at Harvard Mineralogical Laboratory and the determination is *definite* for hemimorphite.

Miss Mrose said she herself had seen these at Westfield and wondered what they were."

Another letter, from Mr. Kitson, dated Oct. 23, 1952, reads:

"The datolite specimen which was described on pages 489-490 (September-October 1952, R & M) as belonging to Joseph Rapalus, was donated by Joe to the Smithsonian Institute in Washington, D. C. Drs. Foshag and Switzer said it was the finest datolite specimen they had seen and it now occupies a place of honor in their institution."

This very fine datolite was also found in the Lane quarry and by Mr. Rapalus.

MICHIGAN—Among the nicest pyro-lusite specimens that were located recently are those found in an outcropping in the forest a little more than 2 miles from Alberta, Baraga Co., Mich. It is associated with limonite and quartz. A graphite exposure is within 100 yards of it.—THE CONGLOMERATE of the Michigan Mineralogical Society, September 1952, (Mrs. Lillian Mihelcic, Editor, 16543 Apoline Ave., Detroit 35, Mich.).

MINNESOTA—Nice limonite geodes, brownish in color, have been found in a gravel pit located $\frac{1}{8}$ mile east of Ostrander, Fillmore Co., Minn. One of these geodes was received from Mrs. Dana Rogers, 820—10 $\frac{1}{2}$ St., S.W., Rochester, Minn.

MISSISSIPPI—Petrified palm wood has been found in Wayne County, Miss., 7 miles northwest of Waynesboro.

MISSOURI — Asphaltum, in black pitchy masses, occurs in a sandstone quarry near Liberal, Barton Co., Mo.

MONTANA—Al Thrower, P.O. Box 305, Santa Cruz, Calif., has paid Montana a number of visits in his search for moss agate. One of his favorite localities is the Hardin district near Billings.

The Hardin district, in Big Horn Co., Montana, is famous for its bluish-gray translucent chalcedony containing specs, spots, etc. of black inclusions which form the moss agate. Hardin is on the Bighorn

River and the finest moss agate is found as pebbles and small boulders in the gravel of the river bed.

A photo of some agates was sent in by Mr. Thrower with his letter dated Oct. 19, 1952. A paragraph in the letter reads:

"A few cabochons made from moss agate I collected in the Hardin district near Billings, Montana. I visited the same place this last June, but find good Montana agate very scarce."

The photo sent in by Mr. Thrower was a very nice one and it was to appear with this item but it got lost (with 6 others) at the printers.

Montana moss agates are famous for their fine quality and therefore are very popular with collectors. We have printed two interesting articles on these agates as follows: "The Montana Agate," by A. J. Harstad (Nov. 1938, *ROCKS AND MINERALS*, pp. 323-328) and "Agates of the Yellowstone River Valley, Montana," by Thomas A. Reiner (Sept. 1941, *ROCKS AND MINERALS*, pp. 219-225, 1 map). The article by Reiner is of special value to collectors because of the locality map which appears with it.

Two short articles on Montana moss agate appeared in the July, 1942, *ROCKS AND MINERALS*, as follows:

"A Moss Agate from Montana", p.238, is centered around the photo of a moss agate depicting a bird and captioned "The Great American Eagle" (found by B. J. Fritz of Seattle, Wash.).

"A Montana Rainbow Agate", by H. E. Murdock (p.239). Rainbow or iris agate when viewed by transmitted light shows bands of the rainbow colors. The specimen described by Mr. Murdock not only shows the rainbow colors but it is scenic as well.

NEBRASKA—In the December 1952 issue of the Nebraska Rock Hound's REAR TRUNK (Charles N. Schwab, Editor, 2745 Fort, Omaha 11, Nebr.) is described the October field trip of the Society. The author of the item is the

Editor, Mr. Schwab. Part of the item reads:

"On Sunday, October 12, a caravan of about 40 persons journeyed to the Plattsmouth City Park for a picnic dinner and then to the Snyderville quarry. This quarry, located in Cass County between Weeping Water and Nehawka, Nebr., is easily accessible by car and being on the south slope, the stone cliff shut off the north wind and reflected the sunshine. The Pennsylvania limestone outcrops here and many fossils are to be found. I, personally, saw ten different fossil types as well as calcite and pyrite crystals collected on this trip."

Among the fossils collected were tiny fusulinas, horn corals, crinoid stems and discs, etc.

NEVADA—The following most interesting letter was sent in by G. Keith Hodson, of Nevada Turquoise mines, Inc., Rainbow Ridge Mine, Denio, Nev. The letter is dated Nov. 12, 1952, and reads:

"Not too many months ago I found a very large precious opal. I was undecided as to whether or not we wished to publicize this find. I know that it would be of interest to your readers and so am sending you the information about it, if you care to use it.

"Recently in Rainbow Ridge Opal Mine, Virgin Valley, (Humboldt Co.) Nevada, a very large fire opal was found. This find comes from the same mine that produced the now famous Roebbling black fire opal. The Roebbling Opal was found around 1919 and weighs some 17 ounces. This huge opal I have just found weighs a little over seven pounds with some clay on it. Without a doubt, when this opal is all cleaned of the clay it will weigh at least six pounds.

"This piece is $9\frac{1}{2}$ by $5\frac{1}{2}$ by $4\frac{1}{2}$ inches—no doubt the world's largest precious opal. It has the shape of a long tapering, chunky wood cast. The whole appears as a gigantic precious opal cast of wood. It is entirely precious with no petrified wood showing. It is remarkably free of cracks and flaws for an opal of this size.

"The body of the opal is slightly grayish-bluish; watery milky-white, transparently-translucent throughout with a pronouncedly vitreous-glassy lustre. The entire opal exhibits color play. Most of it quite brilliant. In some areas there is a pattern of color play and in others there are flames of color without boundaries. Some of these colors are about $\frac{1}{8}$ inch wide and as much as an inch long. Some of these colors are bluish-green, rosy-red, with small amounts of buff-yellow and yellowish-green with touches of blue here and there. All in all too beautiful to fully describe.

"All of the opal found in Virgin Valley is found in a clay called montmorillonite. This clay is part of an ancient beach in which drift wood was trapped. In time this wood rotted away and in some cases these holes were filled with silica gel (opal). Not all of these opal filled casts are fire (precious) opal. Some are quartz and some are just common opal.

"The Rainbow Ridge Mine has been operated off and on for some forty years. We have operated the mine for four years and although I have found some nice opal, nothing to compare this one for size."

NEW HAMPSHIRE—Black masses of columbite have been found in pegmatite at Ossipee, Carroll Co., N. H.

NEW JERSEY—The following letter, dated Nov. 11, 1952, comes from James F. Daly, 13 Ridge Trail, Fayson Lakes, N. J.

"In the last issue of R & M there is an item under "World News" stating that the Peters mine at Ringwood, Passaic Co., N. J., has been reopened.

"I should like to add that the Cannon mine, not too far away from it (less than a half mile) is also in operation. Like the Peters, it was operated during the Revolutionary War.

"Today I visited the locality and am sending some of the material collected. Some of it, removed from the road leading to the mines, looks like it was mined

when the mines were originally operated, in the 18th century.

"The specimens I collected include magnetite (also lodestone in small amounts), a deep flesh colored feldspar, some micro calcite xls, pyrite, hornblende, biotite, and serpentine. The hornblende was in quite large massive chunks.

"To get to Ringwood:

"From N. J. 23 turn off at "Erskine Lakes" sign (Pompton-Newark Tpke.). At end of road turn right on Hamburg Tpke. Turn left onto Ringwood Ave. This later becomes Passaic (N. J. 511). Turn right at Ringwood Lodge. Go past the R. R. tracks and the group of houses on the right immediately following. Not too far past the houses is a small dirt road on the right. This leads to the mines. The Cannon mine is first and the Peters mine further on."

NEW MEXICO—A few xls of fine quality beryl have been found in the gravels near Santa Fe, Santa Fe Co., New Mexico.

NEW YORK—Claude H. Smith, P.O. Box 291, Geneva, N. Y., sent in the following item taken from a Syracuse, N. Y., newspaper dated Nov. 9, 1951.

"There may be a major outcropping of diamond-bearing earth in the United States, after all,—in Syracuse. So reports Dr. Earl T. Apfel, chairman of the Geology department of Syracuse University. Dr. Apfel said yesterday that the same conditions exist in a small area in Syracuse as in the famous diamond mines of the Witwatersrand, South Africa. The geologist explained that only two weeks ago the outlines of a diatreme-pipe of blue clay, of volcanic origin, which sometimes contains diamonds, was discovered by excavators."

NORTH CAROLINA — Small deep blue masses of sapphire (corundum) have been found at the Buck Creek corundum mine, Buck Creek, Clay Co., N. C.

NORTH DAKOTA—S. T. Parke, Sterling, N. D., has sent R & M a nice dark gray mass of petrified wood which was found near Medora, Billings Co., N. D.

The locality is northeast of Medora in the Badlands of North Dakota.

OHIO—On May 29, 1952, Wilbur L. Van Winkle, 37 Jay St., Newton Falls, Ohio, called at the offices of R & M and while here gave us a note which in some manner got overlooked.

The note reads that nice quartz xls, known as Swine Creek "diamonds," are to be found in Swine Creek, Ashtabula Co., Ohio.

We hope C. O. Gettings of Toledo gets interested and will trace down the locality.

OKLAHOMA — Malachite has been found in sandstone near Elmer, Jackson Co., Okla.

OREGON—Nice specimens of azurite have been found in the Ball mine on Cedar Springs Mountain, Douglas Co., Ore.

PENNSYLVANIA — A letter, dated Oct. 16, 1952, from N. A. Knotter, Ursina, Penn., has the following item:

"My son-in-law brought me some native copper nuggets from Chambersburg, Pa., where Uncle Sam is building an underground city and where he works. There is a wild scramble for them. Must be lots of rockhounds there."

A second letter, dated Oct. 21, 1952, from Mr. Knotter tells us:

"My son-in-law tells me that the copper nuggets are now hard to get. The copper occurs in a vein from 2" to 1 foot thick in the tunnel of the underground city which is being built in case of an atomic attack."

A third letter, dated, Nov. 1, 1952, from Mr. Knotter, gives more information.

"My son-in-law was here a few minutes ago. Here is the information he gave me. The copper occurs at Blue Ridge Summit, 6 miles southeast of Waynesboro in Franklin Co., Pa., and to my regret, he did not bring any more copper specimens—just couldn't find one—as the tunnel where the copper occurs has been coated with some white stuff to keep the formation from slacking. And he did not know

where the excavated material had been hauled away."

From Howard V. Hamilton, 115-B E. Adams St., Vandergrift, Penn., comes the following item, dated, Oct. 4, 1952:

"A new quarry has been opened in the Vanport limestone (Carboniferous—Allegheny group) on the Coleman farm about $\frac{3}{4}$ mile S. S. E. of Girty, Armstrong Co., Pa. (It is along route 156 about 11 miles east of Apollo). Some slickensided white calcite is found. The stone is rich in marine fossils, also crinoid stems and 2 varieties of shark teeth noted."

RHODE ISLAND—Blue, fibrous masses of crocidolite with smoky quartz have been found in a granite ledge on Beacon Pole Hill, Cumberland, Providence Co., R. I.

SOUTH CAROLINA—The following letter, dated Aug. 18, 1952, comes from Francis M. Hueber, 1603 Central Ave., Apt. 115, Indianapolis 2, Ind. It describes his visit to the Haile Gold Mine in Lancaster Co., S. C. (situated 3 miles northeast of Kershaw, Kershaw Co.).

"Sorry for my delay in answering your letter of July 26. I had to gather my notes together concerning the Haile Gold Mine and have had trouble laying my hands on some of them.

"My memory has failed me as to the exact date of my trip though I know it to have been in the middle of August of last year. I had a special weekend pass which permitted my leaving from camp early on Saturday morning. My bus did not leave until noon so I had time to get the directions straight in my mind. I had been told that the Haile mine was near Lancaster, S. C., some 90 miles north of Columbia. This was my goal. I arrived there late in the afternoon and after further inquiries at filling stations and the bus station I found that I had been misinformed and that the mine was some 17 miles away near Kershaw. It was late by now and I was told that there were no accommodations to be had at Kershaw. I stayed at a very comfortable tourist home and was up bright and early Sunday morn-

ing. I proceeded to walk to Kershaw and was lucky enough later to get a ride directly to Kershaw. Upon arriving there I found upon inquiring the direction of the mine that it was some three miles outside of the town. The man who gave me this information said he had nothing to do at the time so he drove me directly to the mine. Upon arriving at the mine I met the caretaker, Mr. J. P. Falkenberry, who was just leaving with his family for church. He invited me to attend services with him and I very happily agreed. After services we returned to his home which is located directly in the center of the mine area. I was invited to dinner and while Mrs. Falkenberry prepared dinner, Mr. Falkenberry drove me to the main portion of the mine. Unfortunately the mine has been closed down since the second world war and the pits have since filled with water. The area is very sulphurous in odor as the ore is an argentiferous pyrite and oxidation is taking place throughout the area. All of the water in the area is very acid, bitter tasting. I collected a number of pieces of pyrite in both massive and very minutely xlied forms. The main associate mineral is quartz while minor ones are kaolin, sericite, hematite, limonite, magnetite, molybdenite, rutile, copper and zinc sulphides, arsenopyrite and of course gold in very fine films. I found a number of small cubic xls. of pyrite, some pseudomorphs of limonite after pyrite, a large log of wood replaced by limonite from which samples were taken, kaolin and one piece of ore showing very minute particles of rutile. I collected these specimens hurriedly and then was escorted back to the Falkenberry home to a very fine Southern meal. After dinner we walked around the area where the processing buildings had been. They have since been torn down as a safety precaution as they were in poor repair. I picked up a few more cubic xls of pyrite and we then headed for another sight that Mr. Falkenberry wanted me to see. Before I go on I thought I'd better pass on a few notes from a pamphlet I have concerning the mine. This was published by the Denver

Equipment Company of 1400-1418 17th St., Denver, Colo.

"The Haile Gold Mine is located in what is known as the Appalachian gold belt that extends from a point in Maryland near Washington, D. C., southwestward to Central Alabama. There are more than 1,500 individual properties in this area and have been in operation since the 1820's. Considerably more than \$50,000,000 worth of gold at the old price \$20.67 per ounce has most likely been produced. The Haile Gold Mine covers an area of four square miles, is located in Lancaster Co., $3\frac{1}{2}$ miles northeast of Kershaw and 55 miles north of Columbia (compare this with my original information 90 miles, etc.) It has been the most successful and largest single producer of all the mines in the Appalachian belt. Since 1827 it has produced nearly \$4,500,000 in gold (old price) from over a million tons of ore at 70 per cent extraction. *Geology:* The Haile mine is topographically situated in the Piedmont Plateau adjacent to the coastal plain in an area gently rolling in nature at an altitude of 500 ft. The mineralized zones and adjacent barren country rock consisted, before metamorphism of a water laid andesite tuff. It is now a quartz, sericite schist with related formations. During the Carboniferous, or approximately that time, mineral bearing solutions, originating most likely from surrounding magmatic intrusions, percolated through this schist along shearing and fracturing planes impregnating and replacing certain portions of it with quartz, pyrite and gold along with minor associative minerals. This caused the formation of shoots, lenses and chimneys some of which reach the size of some hundred feet in thickness and as much or more in length. The gold occurs as minute particles, films or invisibly associated with the pyrite. The schistose gold bearing formations are irregularly and decreasingly weathered to a soft material called "saprolite" which may extend to a depth of as much as 150 ft. This weathering has caused enrichment to a small degree, of the weathered areas through the leaching out of the gangue minerals

and also by downward migration of the free gold. Pyrite comprises about 1 to 15% of the average ore of the mine. Though the Haile property covers some 4 square miles the actual workings are included in an area of some 60 acres or less. The work is down where the formations have been exposed through the erosion of the overlying Cretaceous sediments. Through surveys it has been found that the area has a number of other points where the formations may be contacted by the removal of minor or moderately heavy coverings of the Cretaceous sediments. The ore is milled and processed by the cyanidation process and has proven most successful. These are a few of the more interesting facts about the mine."

"To get back to my story, we got into the car and headed for a local attraction called "40 acre rock." It is actually one huge mass of granite which I may assume is a monadnock, though I may be a little incorrect in my terminology, which actually comprises an area of some 40 acres. It is used as a picnicing area by people for miles around. From there we went to a talc mine, where Mr. Falkenberry is employed, and toured it very thoroughly. I obtained some samples of the talc which is dark green and schistose in nature. It is pulverized, dried and sold for insulation and many other purposes. We returned then to Mr. Falkenberry's home where I gathered up my specimens and meager equipment and was driven to the bus station to await my bus. The Falkenberrys were wonderful to me and I'm deeply indebted to them for making my stay so very enjoyable. I could face the coming week of army training a little better after having enjoyed such a wonderful weekend following my hobby. The hospitality of the South is a very real thing and may be found easily anywhere one may turn."

SOUTH DAKOTA — A nice loose, green xl of tourmaline, $\frac{1}{4} \times 2\frac{1}{2}$ inches in size, has been donated by Lee Engberg, 615 Quincy St., Rapid City, S. D. A paragraph in his letter, dated Aug. 29, 1952, reads:

"The xl of green tourmaline was found at the Bob Ingersoll Mine, Keystone

(Pennington Co.), S. Dak., which I visited with another rockhound. The tourmaline occurred in mica.

"This is my first year with R & M and I enjoy it very much."

TENNESSEE—Gold occurs in placers in Tennessee but the only gold placers of any significance are located along Coker Creek in Polk and Monroe Counties.

TEXAS—Beautiful agates have been found about 12 miles south of Marfa, Presidio Co., Texas.

UTAH—A letter, dated Oct. 16, 1952, comes from Ed Dowse, 329 Reed Ave., Salt Lake City, Utah. It reads as follows:

"Looking over my agates for some to cut, I came across some material that I had picked up at a location near Salina, Sevier Co., Utah, two years ago. I have seen some very striking cabs cut from this material by Al Brown who lives in Salina.

"Well I got a bucket of water and dunked a few pieces, as you know that when agate is wet the patterns show much better. I selected two that looked fair and sawed the end off from one; this showed plume but it was not too good. Taking it out of the saw, I chucked it in end way and cut off another slab. Lo and behold! I had a slab of plume that had a picture in it—something that every rockhound looks for. My specimen looked like a line of hills with trees growing on top of them; the bottom was dark agate while the upper half was water clear agate, with a large plume hanging down from the top right-hand side.

"Now you know what this did for me. I got the fever again for a trip down to this agate field.

"Wrote Al Brown and within a few days received a favorable answer.

"We left Salt Lake City early on a Saturday morning (about 6 a.m.) and arrived in Salina about 10:30. The Browns were waiting for us and we soon started off for the agate field east of Salina. We went on a dirt road for 2 miles to an old silver and lead mine, turning on to a sheep trail which leads to the agate field 6 miles away — driving through some

funny looking hills winding in and around them finally driving up a wash as far as the car could go and then we started walking up the ridges looking for agate. Many rockhounds have been here so our chances of finding good agate looked very slim. I followed up the ridges and on over into the next wash and from there worked up into the rock slides which were all up and down in the canyon. Before long I had a knapsack full of agates.

"Climbing up one of the highest ridges, I got a fine view of the surrounding area. The agate field was encircled by hills—barren hills of clay with hardly anything growing on them."

VERMONT—Another assortment of minerals have been received from George W. Lowe, Box 192, Randolph (Orange Co.), Vt. The minerals all come from ledges on his farm. Among the minerals are the following:

Graphite—thin black masses in massive quartz.

Titanite—brownish platy xls with dark reddish-brown rutile xls on dark greenish-black chlorite.

VIRGINIA—A letter, dated Oct. 30, 1952, was received from Albert J. Bettey, P.O. Box 15, Baldwinville, Mass. A paragraph reads:

"The enclosed snap was taken by the wife at the Natural Bridge (Rockbridge Co.), Va. I noticed a pile of pebbles by a concrete mixer, ready to be mixed with cement. I began examining the pebbles and found several nice specimens of pyrite and in a very short time had company. Others became interested, still others. When we left there were around 20 people scratching in that little pile of pebbles. Most all of them took away with them attractive "show pieces" as souvenirs of the natural wonder."

The photo mentioned by Mrs. Betty does not appear as it was one of the seven lost at the printers (see item under Montana).

One of the largest rutile deposits in the United States is near the village of

Roseland, Nelson Co., Va. Here the American Rutile Co. has been working the deposit for years—as a quarry in white feldspar of which rutile and ilmenite form about 5 per cent of the rock. The rutile is commonly found as deep red grains of an adamantine luster often associated with black ilmenite. Grayish-green rounded crystals of apatite are often found with rutile. Blue quartz is a common mineral in the deposit, sometimes in large masses but generally as small grains.

WASHINGTON—Attractive blue chalcedony occurs in Horse Canyon, Kittitas Co., Wash.

WEST VIRGINIA—A petrified forest has been uncovered in West Virginia, according to a newspaper account sent us by G. Vincent Scofield, 1112 Highland Road, Edgewood, Charleston 2, W. Va.

An item from his letter, dated Dec. 2, 1952 reads as follows:

"I enclose for you an article that appeared in the CHARLESTON GAZETTE last Sunday, November 30, describing the fossil trees and plants found on the property of the Denny Coal Company at Slaughter Creek, about 14 miles southeast of Charleston, and two miles from Chelyan (Kanawha Co.), W. Va. The discovery was investigated by Dr. J. LeRoy Kay and others from the Carnegie Museum."

The article was written by Wallace E. Knight, Staff Writer for the GAZETTE. Parts of it read:

"A hidden forest, old but strangely beautiful, has been discovered near Charleston—a hidden forest in which all the trees and ferns and mosses have turned to stone.

"This ancient forest is underground; prior to a few weeks ago the sun had not seen it for some 225,000,000 years!

"The finding of the fossils came about when the Denny Coal Co. recently pushed coal prospecting operations around a rugged hillside above Slaughter Creek.

"Power shovels, stripping back the earth from the hill—uncovered the ancient forest.

"Three truckloads of the fossils have already been taken to the Carnegie Museum (in Pittsburgh, Pa.); part of the collection will be placed on exhibition and the balance put in the study collection there."

Four large photos illustrated the interesting article.

WISCONSIN—It is interesting to report that one of our subscribers found the two largest meteorites ever found in Wisconsin. The subscriber is H. O. Stockwell, Box 563, Hutchinson, Kans., who specializes in meteorites. In his letter, dated Oct. 1, 1952, he writes:

"The Wisconsin trip was one of my most profitable excursions. Two of Wisconsin's largest meteorites right from the back door of the Milwaukee and Chicago Museums."

Mr. Stockwell sent us a copy of **WEST BEND NEWS**, Tuesday, Sept. 23, 1952, issue. In this paper, published at West Bend (Washington Co.), Wisc. we read:

"The two largest meteorites ever reported found in the state were unearthed last week in the town of Trenton by H. O. Stockwell of Hutchinson, Kans. Stockwell, a businessman who makes a hobby of collecting these unusual objects which plummet from the sky, discovered the two on the Reuben Gauger farm, six miles southeast of West Bend. They were buried under 24 inches of earth and had a combined estimated weight of well over 900 pounds. Each of them, said the discover, weighs more than the combined weight of all the other meteorites ever reported found in Wisconsin. He estimated the weight of the larger of the two at 500 pounds and the other at 450."

"Both meteorites are of basic nickel and iron composition, a combination which is found in only about 10 per cent of the meteorites which strike the earth."

—●—
In the September-October, 1952, issue of **R & M**, p. 496, appeared an item relative to the finding of a leopard sandstone near Alma Center, Jackson Co., Wisc. This information was obtained while attending the Mid-West Federation Convention at Milwaukee. We made many notes

on this trip and to our sincere regret one of them had two errors in it—the convention may have been too much for us. At any rate we are pleased that the errors were caught and that they may be corrected. Our grateful thanks are extended to our good friend, F. L. Fleener, 1415 Hosner St., Joliet, Ill., for his kind letter of Oct. 26, 1952. It reads:

"I have been enjoying the last issue of **R & M** immensely, there are so many articles that I can scan with both pleasure and profit. World News just as good as ever, however, I found a couple of mistakes that for your own record should be corrected—under Wisconsin you note the information concerning the location of "leopard" stone. So far as I know "there is no such animal" unless it is the Leopardite at Amelia, Va. The stone from Alma Center, Wis., is Zebra Stone, a phase of the St. Peter sandstone in which ground water has concentrated iron oxide in irregular bands much resembling the stripes of the Zebra in their arrangement. It surely makes a striking curiosity."

"The collector is not F. C. Brown, but our good old friend George F. Bawn of Eagle Grove, Iowa, one of the Charter members of the Old Timers Mineral Club."

"I believe that you once wrote me that you were interested in keeping a file of mineral localities, and I did not wish you to have this misinformation on your card."

WYOMING — From Pearl & Karl Johnson, Jackson Hole, Wyo., we have received a very nice limb section of deep black petrified wood. The locality for this fine specimen is Eden Valley in Sweetwater Co., Wyo.—the locality is noted for its fine petrified wood.

ALASKA — William Freiter, Healy, Alaska, has sent in a number of specimens which he had collected from the bank of the Nenana River at McKinley Park, Alaska. Among them were:

Pyrrhotite: Dark bronzy grains and masses with milky quartz in a dark gray fine grained igneous rock.

Consolidated gravel: Nice little specimens, brown in color—all pebbles are coated and cemented by dark brown limo-

nite.

Limestone: Grayish white, banded. Fluoresces and phosphoresces pale cream under long wave lamp.

Quartz schist: Nice grayish crumpled mass. Pearly white sericite coats one face; tiny pyrite xls are embedded in the schist.

AUSTRALIA — An interesting letter has been received from Kelvin Green, F.G.A.A., % National Station LPK, Town Hall, Rockhampton, Queens, Australia. It is dated Nov. 14, 1952, and reads:

"Noting what your correspondent, H. H. Batchelor, says in the issue of July-August 1952. Strange that two summers ago papers facetiously spoke of "Latest Ferry to Longreach & Cloncurry!"

"Tekites seem to be stardust that has landed on a hot upper layer of atmosphere—estimated to be 600° C—and carried round by stratospheric winds until plastic and spherical, then dropped to earth. They somewhat resemble the old-fashioned "Treacle-drops" in shape; are dumb-bell, concentric-ringed, drop-shaped, or, most commonly, like a lump of something soft dumped on something soft.

"In Kalgoorlie, West Australia, I saw collections of them. Some from the mining fields, some from the Nullarbor Desert. Mostly they were of a green-black basic glass but some had been to some extent "replaced" by pyrite—to my way of thinking these latter, found by prospectors in mine workings, were of considerable geologic age. I had half a dozen found when the "Deep Leads" of the Kanowna, W. A. Goldfield were being worked. Out in the Nullarbor Desert they were not scarce but no one cares very much about going out there. Not enough scenery to look at, perhaps. No mineralogist would class a tektite as "jasper." Obsidian to basic glass is nearer. Much mineralogic interest lies around loose in interior Queensland. Anakie sapphires were not recognized for many years. Fossil wood, boulder opal, agate, chalcedony, jasper lie around on the ground. Thirsty work to gather it, though. And maybe an emu might give one a nasty look, or a sheep come up and bite you! And be-

ware of the Cassowary in North Queensland. He gives indigestion unless properly cooked.

"Good to read in that same issue of the huge, blue-black corundum sculptured to a head of Abraham Lincoln. A great man and a lasting piece of work. I have a large piece of similar stuff that could carry a plaque of Ike Eisenhower, leader of the Allied Forces at D. Day. To Yanks he is "just a President," it seems. The rest of the world can't place him any lower than Churchill or any other great man. Corundum will last for thousands of years. Any offers? To carve it; not to buy it. I'll give it free!"

CANADA — Small masses of native copper in basalt have been found at Cape d' Or, Cumberland Co., Nova Scotia, Canada.

CELEBES—A small but most interesting specimen of native gold (small flakes and masses) in massive smoky quartz and dark brown limonite, was recently donated by Rudolf Opavsky, Casilla Correo 1219, Montevideo, Uruguay. The locality is the Gurupai gold mine near Totok in the northeastern part of Celebes Island. Celebes is one of the largest islands of the Dutch East Indies; it formerly was a possession of Holland but is now part of Indonesia. Totok is near the east end of the northeast arm of Celebes.

A paragraph in Mr. Opavsky's letter, dated Nov. 20, 1952, reads:

"The gold specimen from North Celebes was obtained from Radja Datoe Manoppo, now deceased, but at that time (1920) self-governor of the State of Bolaang Mongondow with capital Kota-Mobago. He did not remember the "wherefrom" but later I could trace it as very likely from a small mine called Gurupai up in the hills not far from Totok. I never did get very close to these mines, it is very rough country and I never had enough time on hand to do much exploration in those parts. We were more interested in plantation products which was better business."

Mr. Opavsky has been all over the world and collected many minerals but

they have all been given away. See his item under Java.

CHILE—M. L. Peterson, 933 North Longfellow St., Arlington, Va., has donated an interesting specimen of quetenite whose locality is Mina Quetena, Calama, Chile. Quetenite is a hydrous sulphate of magnesium and iron. It is a reddish-brown mass associated with greenish-blue chalcantinite.

DENMARK—Gerhard Koppen, Skagen 3, Nybro, Sweden, has sent in a number of Swedish minerals including a few specimens from Denmark. Among the Danish minerals was a small group of reddish-brown quartz xls which he had collected at Bobbe Aa on the northern coast of Bornholm Island. These are not only the first crystals we ever saw from Denmark but they are also the first mineral specimen we ever saw from Bornholm Island.

From O. B. Boggild's **DANMARKS MINERALER** (Danmarks Geologiske Undersøgelse, Copenhagen, Denmark, 1943) p. 62—appears the following (in English):

"**Quartz**: This mineral occurs in large quantities in the pegmatite veins and also in the form of pure quartz veins; crystals are found here and there in clefts in granite or diabase, especially along Bobbe Aa, where there are rather large crystals (up to 3cm thick), sometimes amethystine in colour, together with crystals of fluorite."

ENGLAND—Some colorful specimens of serpentine pebbles—green-red-brownish—about $\frac{1}{2}$ to 1 inch in size, have been sent in by P. D. Boerner, 122 Albert Place Mansions, Lurline Gardens, Battersea S W 11, London, England. These attractive pebbles Mr. Boerner had picked up at Sennen Cove, Lands End, Cornwall, England. ("Originally washed around from Lizard Point — very large deposits there"—note on label).

GREECE — Small but lustrous black tourmaline xls on emery and coming from the famous emery deposits on the island of Naxos, in Greece, were donated by

John J. Lavranos when he formerly resided in Athens, Greece. Mr. Lavranos now resides at 49 Sixth St., Linden, Johannesburg, South Africa.

HONDURAS — An interesting specimen of fibrous lead-gray stibnite coated with brownish earthy cervantite, was donated to R & M by Mark H. Robinson, 18 E. 41st St., New York, N. Y. The locality for the specimen is a deposit near the Jalan River, Olancho Department, Honduras, Central America. It was collected by Mr. Robinson while on a recent trip to Central America.

IRELAND—Nice specimens of black manganite have been found near Ross, Co. Cork, Ireland.

JAPAN—Beautiful tufts of deep green, silky malachite have been found in the copper mines at Arakawa, Ugo Province, Honshu Island, Japan.

JAVA—About 2 years ago, Minerals Unlimited, 1724 University Ave., Berkeley 3, Calif., sent us a most interesting Beta quartz crystal. This is a loose, smoky, doubly terminated crystal whose locality was given as Sokoboemi, Preanger, Indonesia. For months we tried to locate the locality on a map but without success (Minerals Unlimited could not help us) until we happened to mention it in a letter to a subscriber who had traveled extensively throughout the Dutch East Indies (most of which is now known as Indonesia). In a letter dated Sept. 23, 1952, from Rudolf Opavsky, Casilla Correo 1219, Montevideo, Uruguay, we read:

"You mention Sokoboemi. In the *National Geographic* map it is spelled Sukabumi, but the right local spelling is Soekaboemi and is situated in the Preanger Bovenlanden in Java (west corner). I was thereabouts in 1918-19 but have no minerals from Indonesia any more beside a 17 gram piece of gold ore from the north of Celebes (1921). This is the only specimen and you shall have it (see Celebes). Nothing else is left of my old collections. I have scattered all to make others happy, as my continuous moving

about did not allow any stockpiling of such heavy stuff."

SCOTLAND—Dark green sls of augite have been found in trap rock on the island of Skye, Scotland.

SWEDEN—We have received a number of nice specimens from Gerhard Koppen, Skanegaten 3, Nybro, Sweden. Among the lot was an interesting specimen of banded, black hematite whose locality is Striberg near Nora, Sweden. The specimen looks like banded magnetite.

WALES—In the last issue we printed an interesting letter received from P. D. Boerner, 122 Albert Place Mansions, Lurline Gardens, Battersea SW 11, London, England. Mr. Boerner (from Australia) is on a year's visit to England, visiting relatives and touring the country. His 2nd letter dated Oct. 7, 1952, reads as follows:—

"Upon my return from Wales, I found your letter of the 19 Sept. awaiting me.

"My wife and I really enjoyed our trip and only the smallness of our car prevented us bringing a great part of Wales back to London with us. You expressed a wish for sand from Wales, unfortunately I did not collect any but will see to it that a sample is sent on to me. From a magnificent stretch at St. Davids I collected some pebbles there and some reasonable quartz crystals in the limestone and slate which is predominant (incidentally the scenery is magnificent and the people very nice indeed). At Tenby in Pembroke (Wales) there is a great variety of flint and other interesting pebbles, also a nice conglomerate. I also got some fossils, which still have to be identified.

"On our way back to London we passed over the Welsh Mountains and through many valleys—very rugged and very lovely to the eye. Una (Mrs. Boerner) had noticed in our Guide to Great Britain (Baedeker, 1894, very old but thorough) a note on the old caves and Roman gold mines at Pumpsaint (Caermarthenshire, Wales), so having put up

at an inn we inquired about the place and were told it was only about two miles from where we were. Next morning we were soon at the mines which lay about half a mile off the main road. They were at the side of a low hill and we were amazed to see a large mullock heap of waste rock, a rough estimate being about 6,000 tons. It was quite apparent that the area had been spasmodically worked up to the present times and we saw that this was so by the modern sheds nearby. Although at present it is not being worked, the mine has been worked in the open cut method of latter times but on the hillside all around one can see caves some of which looked very dangerous so we did not attempt to go deep into them—these were obviously the early workings. The dumps were a collector's paradise and veritably free from the searching fingers of enthusiastic members of the rock hunting fraternity. While we were there it was cold and bleak and it looked like rain, nevertheless we had no trouble in finding reasonably good specimens including one real plum in the form of a piece of milky-white quartz with a cavity which holds a very nice piece of native gold about $3/16$ of an inch long; the specimen is about $2\frac{1}{2}$ " long and 1" thick and has a few crystals on the other side. You can imagine how pleased we were because usually such specimens are not left behind by miners. Other minerals which we noticed were calcite, chalcopyrite, quartz crystals, pyrite, some nice pieces of galena, and a form of iron ore; we also saw micaceous schist. A strong point of interest is that Welsh gold has been used to make wedding rings for English Queens and we were pleasantly surprised to learn that our present Queen Elizabeth has a wedding ring made from gold found at the old Roman gold mines at Pumpsaint. Incidentally the gold mined in the British Isles is negligible.

"P. S.—Parcel of above specimens on the way."

A number of specimens were received from Mr. Boerner of which one was a dark brownish banded quartzite pebble

from the beach at Tenby, in Pembroke-shire, Wales.

From Pumpsaint gold mines were the following:

CHALCOPYRITE. Lustrous little golden yellow xl embedded in a cavity amongst rock xls.

HEMATITE (yellow ochre). Earthy masses in a $\frac{1}{4}$ inch quartz vein in a dark quartz rock.

PYRITE. Broken xl masses in massive milk quartz.

QUARTZ (rock crystal). Tiny little xls with chalcopyrite.

We searched each specimen most carefully hoping to find at least a trace of native gold, but without success. Mr. Boerner was most fortunate in finding his nice specimen.

"Meet Me In St. Louis"

at the

Thirteenth Annual Convention

of the

Midwest Federation of Mineralogical and Geological Societies

Dates for the thirteenth annual convention of the Midwest Federation of Mineralogical and Geological Societies to be held in St. Louis, Missouri, next summer at the St. Louis University High School, 4970 Oakland Avenue, will be June 26-27-28, according to an announcement just issued by Elmer Headlee, 221 East Argonne Drive, Kirkwood, Missouri, vice-president of the Federation and also president of the St. Louis Mineral and Gem Society, host organization for the conclave.

Theme of the convention will be "Meet Me in St. Louis," says K. E. "Kem" Gibbons, 6421 Hobart Avenue, St. Louis 14, Missouri, convention chairman. Gibbons reports plans well underway to make the 1953 convention better than any ever held. Arrangements already have been completed, he says, for many unusual and interesting exhibits, some of which have never been shown before. Other plans completed to date include a convention banquet which will feature an outstanding speaker, field trips during the three-day session, with possibly a two-day post convention field trip thrown in for good measure. An added attraction will be an address by the well-known geologist and geological engineer, Dr. Albert J. Frank of St. Louis University, who will speak on the "Geology of St. Louis and Vicinity."

Added attractions will include visits to the Municipal Opera, the world-famous Zoo, both of which are in Forest Park, adjacent to the convention grounds, and a boat trip on the Mississippi River on the air-conditioned Admiral.

Committee appointments, approved by President Headlee and as announced by Convention Chairman Gibbons include the following: **HOUSING AND TICKET RESERVATIONS**

Mrs. Jean Strobe, 3529 Lafayette Avenue, St. Louis, Missouri.

Miss Teddy Kratz, 2742 Meramec Street, St. Louis, Missouri.

REGISTRATION

Mrs. Theodore Boente, 4980 Neosho Street, St. Louis 9, Missouri.

FIELD TRIPS

Frank N. Signaigo, 8661 Trumbull Street, St. Louis 20, Missouri.

EXHIBITS

Commercial: W. H. Vesper, Jr., 109 Gray Avenue, Webster Groves 19, Mo.

Non-commercial: Lyndell Grosch, 6958 Mardel Avenue, St. Louis, Mo.

It is suggested that in general all inquiries concerning the forthcoming convention be addressed to Ken Gibbons, convention chairman. Commercial exhibitors are invited to write to Mr. Vesper, while the non-commercial exhibitor should write to Mr. Grosch. Persons interested in any particular phase of the convention may write to the chairman concerned as listed earlier in this article.

Lest you forget mark next June 26-27-28 as dates in your vacation calendar to have your friends "Meet Me in St. Louis" at the 1953 Midwest Federation Convention.

Charles C. Crosswhite
Publicity Chairman
8913 White Avenue,
St. Louis 17, Missouri

McCorry Will Tour Europe!

Dear Editor:

Am planning on a trip to Europe—my first vacation in 35 years. This trip will include Ireland, England, Scotland, Wales, France, Germany, Spain, and Italy. Will receive my mail in Ireland. Will be gone for a year and perhaps 18 months and plan to spend most of the time mineral hunting and collecting rare old china.

Hugh McCorry
Platinum, Alaska

Nov. 9, 1952

THE AMATEUR LAPIDARY

Conducted by **COMMANDER JOHN SINKANKAS**

Certified Gemologist, American Gem Society.

1107 S. Oakcrest Road, Arlington, Va.

Amateur and professional lapidaries are cordially invited to submit contributions and so make this department of interest to all.

LAPIDARY MACHINERY

PART I

CABOCHON MACHINERY

The Problem—Everyday I am asked my opinions on such-and-such a saw or lap or facet head. These requests have been so numerous lately that I feel that an article on lapidary machinery is called for in order to serve as a guide to those amateurs who are thinking of getting a new piece of equipment. I shall start by taking up the mechanical devices most often used in lapidary machinery and voicing some general principles about their construction. Later I will discuss specific applications and in a second article, faceting machinery.

Bearings—There are two types commonly in use: the sleeve or friction bearing and the ball bearing. The sleeve bearing generally is nothing more than a bore lined with a low melting point alloy through which passes a shaft or other rotating part. Lubrication is affected by an external supply such as a small cup of grease or oil. Certain porous materials such as wood and sintered bronze can be impregnated with oil and when used as bearings are quite satisfactory. However they will ultimately lose their oil and must then be replenished. Maple, teak, *lignum vitae*, etc., are often used as bearings but under concentrated loads are apt to compress into elliptical holes. Sintered bronze bearings are used extensively in small electric motors and work very well providing there is no great lateral stress placed upon the shaft. In this respect, all sleeve or friction type bearings are weak; under strong sideways loads such as belting or weights or the resistance offered against a saw-blade by a weight-fed rock, they are apt to deform resulting in a loose and wobbly shaft. Where

loads are light, they are quite satisfactory being exceptionally quiet as compared to ball bearings. They require continual replenishment of lubricant however, and in the case of machines equipped with pressure type fittings, require the owner to buy a grease gun. Any machine in which strong side loads are expected to be imposed should have ball bearings. This is particularly true of weight-fed saws. Mechanical-feed saws feed the material slowly enough so that if the saw is unable to excavate the material as fast as it is fed, the friction developed on the saw blade will usually stall the motor providing the motor is not too powerful. The worst situation as far as sleeve bearings are concerned is when a pulley is on one end of the shaft and the working load on the other. Here a rather powerful pull is required to keep the pulleys from slipping, naturally imposing a side load on the bearing tending to wear it out of round. On the other end is a load which may vary widely in force as work is applied on and off. Between the two it is just a question of time until the bearing enlarges and the shaft wobbles. The only practical method of licking this problem is to make the sleeve bearing very long—something not always convenient to do.

Ball Bearings—Ball bearings are the supreme side load type. Sideloads are imposed directly on the hardened steel balls rolling in hardened steel raceways and needless to say, they do not flatten worth talking about. In late years, ball bearings have been made which already have adequate lubrication sealed inside for the life of the bearing and furthermore such sealing keeps out dust and

dirt. Ball bearings are more expensive than sleeve bearings and tend to be noisier, but by and large are vastly superior to sleeve bearings for most lapidary machinery. Unless they are sealed however, they will wear very quickly if dirt enters them. Unsealed bearings can be used successfully but must be protected from dust by slinger cuffs or seals.

Thrust Bearings—One type of ball bearing, the thrust bearing, is of interest because it can resist a load imposed down the shaft axis as well as a lateral load. Because of this design feature, such bearings should be used in horizontal laps, particularly large weight-carrying laps. Like other ball bearings the thrust bearing must also be guarded against contamination with loose grit.

Shafting — Shafting must be rigid enough to prevent "whipping" or "sagging," that is, when loads are applied, the shaft will not bend. In saws this is a highly important feature and a mandatory requirement. If any appreciable deviation of the shaft occurs, the saw kerf will start deviating from a straight path and excess abrasion on one side of the blade will take place, resulting in overheating, warping of the blade, uneven wear, and short blade life. In general, shafts for saws should not be less than 5/8 inch diameter for 4" to 8" blades, 3/4" for blades 12" to 18". Shafting should be accurately ground to final dimensions, this can be told by eye by noting the absence of the fine, continuous vee-shaped tool marks left by a lathe tool. Grinding removes these marks and leaves a fine, satiny finish. In purchasing a saw machine, seize the shaft and tug quickly sideways in opposite directions, note if any slight wobbling occurs. If there is a wobble don't buy the saw—there should be no play at all in new condition. In ball bearing supported shafts, the manufacturer of the bearing operates under a rigid inspection code and shafting fitting snugly within the inner face will almost always be without any appreciable play. In sleeve bearing types, no play should be evident when new but since the lubricant

does provide an appreciable film thickness, shafts will develop a very small amount of play later as the bearing is "worn in". If kept properly lubricated as it should be, the shaft will feel tight even after months of operation.

Vertical Wheel Units — Certain machines advertise this feature as their main selling point, a very good one too, but one which should be clarified a bit. Where household space is limited, a combination machine is almost necessary regardless of the well known fact that such a machine must be a compromise of all the features desirable in each individual operation. Vertical running units are now common on the market but most suffer from several serious defects: first a common shaft which calls for a great deal of disassembly in order to change grinding or sanding wheels, second, water spray feed to the working surfaces. Some run in a trough and when wheels are worn beyond a certain point can no longer be used because there is no practical way of feeding water to the working face, third, not enough variation in speed between the various operations—this is usually partially taken care of by utilizing a 2 step cone pulley on the shaft but also (usually), the high speed available is not high enough for the grinding wheels and the low speed, too fast for the polishing buffs.

Sponges may help to get water to a working face—but sponges are not cheap and wear away quickly. Furthermore a grinder working at *proper* speed simply will not accept water from a sponge—it goes off in a fine spray which does not truly wet the surface. The only practical solution is to have a *forcible* adjustable jet spray onto the wheel. Even a *dropping* of water on the wheel is not satisfactory under high speed. Vertical runnings disc sanders also are awkward to say the least when it comes to wet sanding—again the difficulty is in applying water. Vertical edge-type buffs are very messy also if run at high speeds.

Horizontal Units—In horizontal combination units, it is necessary to change wheels, buffs, etc., whenever a new op-

eration is to be performed—tedious and annoying at times. The problem of supplying water to the working face is greatly simplified *if the side of the grinding wheels are to be used*. Water is merely dripped on near the center where it quickly spreads thru the porous wheel and provides excellent wetting. Grinding on sides of wheels however, is inherently a bad business. First of all, there is no practical method of truing up the wheel when bumping begins (and believe me, it soon will), second, the side loads imposed on the shaft and bearings by downward pressure of grinding make it mandatory *that all bearings be ball*. Thirdly, grinding wheels are very wastefully used since there is usually no way of using the last bit of wheel on the outside. Furthermore, if the pit in the middle developed by grinding goes down to the point where there is only a thin web remaining, the wheel has become obviously dangerous. Horizontal wheels should not be used for side grinding, *they should be used for edge grinding only* just like vertical wheels and if properly used, are greatly superior because the lapidary can look down upon the edge and *see a every moment* the contact point between stone and wheel and thus get greater control in shaping. A poor craftsman on a horizontal wheel will not turn out any better work than a skillful man on a vertical wheel but does have a better chance since he can see exactly what is going on.

Watering of high speed horizontal wheels whose edge is to be used as the grinding face is a serious problem. There is only one solution that is satisfactory—a *forcible spray feed*. Dripping water on the top of the wheel is ineffective since only the top layer of the wheel will be impregnated, the bottom layer will be dry and hence so will one half of the working face.

For sanding, the horizontal machine is unsurpassed if sponge-backed disc sanders are used. A water drip to the exact center is all that is necessary to provide adequate wetting for wet-sanding. Similarly, polishing is greatly facilitated

particularly if a curved buff is used.

Horizontal sawing is a snare and a delusion. Inherently it is almost impossible without elaborate, unreliable and complicated arrangements to feed coolant to *both* sides of the blade. At best, very small pieces can be cross-sectioned accurately—larger pieces are apt to bog down seriously. Clamps and clamp arms provided with such devices generally suffer from lack of rigidity so that they twist under the load, promoting very unsatisfactory sawing conditions. If in such machines, the clamp arms were redesigned to eliminate twisting and the weight feed hook were moved to the lip of the clamp so as to get the feed pressure closer in line with the saw cut, they would be greatly improved. Naturally trim sawing on such horizontal saws is extremely difficult to do either efficiently or accurately.

What To Get—For the fortunate individuals who can afford both the funds and the space, the home workshop should be equipped with separate machinery to take care of all the major operations: (a) sawing, (b) trim-sawing, (c) grinding, (d) sanding, (e) buffing, (f) lapping.

Combinations—It is quite satisfactory to set up the grinding wheels on one assembly with a disc or drum type sander on the end but water sprays must be carefully installed for the reasons already mentioned. Two speeds should be provided on the shaft however, high for grinding, somewhat less for sanding. Polishing buffs are best set off to one side on a separate unit and should have *two* buffs, leather and felt. Speeds should be low. Sawing machinery ultimately gets to be of two types—a trim saw and a large slabbing saw. The trim saw should operate at the surface speed recommended by the manufacturer and the pulley sizes provided accordingly. Spray protection is essential, flat tables without lips are very useful for large slabs.

Slabbing saws are expensive but my advice is that if you can't get one now, save up your money and wait until you can get a power feed saw of good make.

Weight feeds are very dangerous to the health of the blade since they apply the same pressure to the stone regardless of whether or not the section varies in thickness, as the section gets thinner the weight per inch ratio goes sky high and the saw churns along in a flurry of sparks and dust, needless to say, not good for the blade. A power feed delivers the stone steadily and predictably and if adjusted for proper feed, *cannot* overrun the ability of the blade to remove material. Furthermore, the feed is so delicate that the cut can be started on any face of the stone providing that it is not a prohibitively small acute angle. Even in such cases, it is possible to get good cuts by selecting the *slowest* rate of speed and then changing to a *higher* rate once the cut is started squarely.

Changing Speeds—In alternating current motors of the types commonly available to the amateur, there is no practical method of changing speeds by electrical means. In DC motors it is very feasible but for AC, the RPM of the motor is a function of the frequency of the current which in the United States is standard at 60 cycles. Thus the usual AC motors can be bought for either one of two speeds: 1725 RPM or 3450 RPM. To reduce or elevate speeds of units from these shaft speeds some mechanical device is necessary, i.e. pulleys of varying diameter, or a device which has a floating member in the middle by a control arm can be used to vary speed within certain limits. This device suffers from the defect that it requires two belts and a large table space. Where combined units are used, two, three-step cone pulleys will probably give the variety of speeds necessary.

Split phase motors are generally satisfactory for most lapidary combinations but the built-in condenser type is better. For slabbing saws it is almost essential to have a built-in current breaker in the motor so that if the saw jams, your motor will not burn up.

Non-Standard Items — Avoid buying machinery which requires special wheels, sanders, saw blades, etc. Standard sizes

are always instantly available and freak sizes may have to be the subject of special order work with consequent delay in delivery and probably added expense. Standard threads on shafting, screw on attachments, etc., is highly important since it will usually allow items of equipment to be easily inter-changed. There is, generally speaking, no virtue in buying "specially prepared wheels made to our own specifications" etc, etc, since all wheels, sanding cloth, and so on come from the same basic manufacturers who have been providing such material to commercial lapidaries long before the amateur showed up on the scene. Standard and well known trade names in abrasives are your best guarantee for satisfaction and special labels stuck on grinding wheels by lapidary equipment manufacturers mean very little.

Summary—To summarize, let's just stick to good common sense and buy equipment according to these rules:

1. Are shafts loose or tight? If suspended in sleeve bearings, are the bearings long enough to prevent side loads from wearing them out of round?
2. Are ball bearings sealed? If not, are they protected by slinger cuffs?
3. Are all parts big enough and rugged enough to be stiff and rigid? Is shafting ground or turned? Is it thick enough? Is it hardened or mild steel?
4. What method of lubrication is used? Is it troublesome or easy? Do you have to buy a grease gun too?
5. Can you see what you are supposed to see when running the machine?
6. Are grinding wheels protected by hoods?
7. How is water or coolant applied?
8. How easy is it to clean up the machinery? What about rusting and corrosion?
9. In saws, is the box stiff enough to keep from twisting the feed mechanism out of alignment with the blade? Is the alignment correct to begin with? Is the clamp quick and positive in action? Are there hardwood, replaceable jaws? Is there a slab tray?

10. Are standard threads, standard nuts and bolts used throughout. Are nuts prevented from backing-off by lock washers or some other locking device?

11. Can you use other manufacturers' equipment on the same machine or is it all "special?"

12. How safe is the machinery—are moving parts enclosed to prevent catching clothing, grinding wheels enclosed in guards, etc?

Ask yourself these questions when buying new machinery. If you can't get the answers from the literature, ask the manufacturer, he should be glad to give you any additional details that you require.

The next article will deal with faceting machinery, both laps and faceting heads.

New Facet Rough — A subscriber in Georgia sent me some fine almandine crystals the other day for evaluation. From one of them was cut a ten carat oval brilliant. Although this ten carat stone proved to be somewhat dark, the excellent color and quality of the material lends itself beautifully to turning out 5-7 carat stones or less, as well as rich-colored, carbuncle cabochons. I have been informed that he plans to market the material in the near future. Various locations in the Southern Appalachians are mentioned by Kunz who waxes enthusiastic at times about the possibilities but this is the first time that I know of that this handsome native material is being offered commercially.

R.&M. — Curator and Host!

Editor R&M:

It is with pleasure that I renew my subscription to the R&M Magazine.

To me the magazine has been both curator and host. As curator its pages form a continuous parade of geological and mineralogical information, and as host it has introduced me to many wonderful friends. These friends cover the country from coast to coast and from Canada to the Gulf. I have never seen these friends but we exchange letters and specimens. I would never have come into contact with them except from the R&M Magazine.

So I gratefully say, "Best Wishes" to its genial editor.

Geo. C. Olmsted
1129 James Blvd.,
Signal Mtn., Tenn.

Nov. 3, 1952

The Only Magazine For Bob!

Editor R&M:

I've taken ROCKS AND MINERALS for only six months, but the very first issue convinced me that I had found the only magazine I'll ever have to take.

So along with many other happy readers of R & M I wish you and your staff the merriest of Christmases and a Happy New Year.

Bob Gunderson, Secretary
National Rockhound's and
Pebble Pups Asso.
621 Mountain Blvd.,
Oakland, Calif.

Dec. 20, 1952

Becomes "Educated" Through R.&M.

Editor R&M:

I am enclosing \$3.00 for a renewal for my Rocks and Minerals magazine.

When I first received my copy I hardly understood it, but now it is so much more interesting and I really feel I know it. That proves I have become educated through reading it.

We have formed a rock club at Vermillion, S. D.—28 miles from here. Retired and active geology professors are in it and giving us wonderful help and education.

Mrs. Edwin P. Olson
Box 425,
Beresford, So. Dak.

Dec. 10, 1952

Likes All of the Magazine!

Editor R&M:

Another year has rolled around and I am still here. And during the coming year I want ROCKS AND MINERALS to keep on coming, so herewith find \$3 in cash to do just that.

I still like the Lapidary Dept., World News on Mineral Occurrences, *anything* on agates (especially pictures of same), buyer's guide, gem society news (especially Rochester, Minn.—44 miles away), rock hunting trips in general and Zodiac's trips in particular. Goodness, seems like I could have just said—"I like ALL of the magazine!"

R. R. Loppnow
11 W. 4th St.,
Winona, Minn.

Nov. 22, 1952

MINERAL SHOPPER'S GUIDE

Conducted by CHARLES A. THOMAS

706 Church Street, Royersford, Pa.

Advertisers are invited to send notes or samples of their products. This service is free.

Prospective dealers, new dealers (not the political kind) and old reliables have written us and sent us so many things to look at, appraise and gloat over. The Midwest shop, whose ad has recently appeared in this magazine, sent us a very lovely set of fern fossil impressions. Treated by a new process, the imprints stand out to the eye in a most pleasing manner. Any type of collectors should appreciate such specimens in his display cabinet. Good luck to you, proprietor Riecker, in your new help to collectors.

Cesar Luna Larumbe, of Monclova, Coah., Mexico, shipped in a very valuable collection of cleaved, clear, two color fluorite octahedrons and massive pieces of perfectly clear fluorite along with many rhombs of honey and clear optical calcite . . . exquisite specimens all. Mr. Larumbe has been advised to advertise this superb material from his own mine, in ROCKS AND MINERALS so that collectors all over may also obtain this exquisite fluorite and calcite. The fluorite comes in clear, very pale blue and lavender colors.

Many collectors are familiar with the new type wernerite discovered a few years ago near Grenville, Canada. Two shipments of the "Queen of Fluorescent Minerals" arrived recently from Quebec and Ottawa. Mr. Hugh S. Spence and Mr. A. R. Lanigan of Calumet, Quebec, were co-discoverers of this very brilliant yellow fluorescent wernerite and have been supplying dealers in this country for some time. This wernerite is perceptibly lighter in color than the old type fibrous wernerite and seems to be much more intensely reactive under all types of long wave lamps. Even the common Purple X bulb does a fine job on this material. We observed our first specimen of the Grenville wernerite in the fine Museum at Paterson, N. J. Perhaps few fluorescent addicts know that Dr. Henry E. Millson of the Calco Chemical Division,

American Cyanamide Company, has tested many fluorescent minerals for long phosphorescence duration. The Grenville wernerite showed a duration limit of 4500 hours or about the fourth longest of any mineral tested at the time the tests were in progress. Mr. Spence and Mr. Lanigan are well known in Mineralogical circles in this country and Canada. Mr. Spence has had a full life with minerals as Consulting Mineral Technologist with offices in Ottawa. Thank you Mr. Spence and Mr. Lanigan for acquainting us more thoroughly with this type of wernerite and we do hope that dealers all over the country will be able to boast that they have this mineral for sale to collectors. We mentioned this wernerite in the last issue. It is felt that this added bit of data will be appreciated by those who love this mineral.

Siam produces the most lovely quartz gems we have ever seen for the money or for any money, for that matter. Plummer's, whose ads appear regularly in your favorite mineral magazine, ROCKS AND MINERALS, sent us a most brilliant emerald-cut quartz crystal which was cut and polished by modern methods in Siam. The stone is perfectly clear and superbly polished, about 28 carats in weight and about seven-eighths inch by five-eighths by seven-sixteenths thick . . . truly a beauty. Price at Plummer's—\$1.98 which includes the excise tax. A bargain if there ever was one in mineralogical things. Gem collectors, any collectors, take note before it is too late. Want a piece of the hard to get catlinite? See Plummer's . . . it is the real stuff.

Some collectors of fluorescent minerals like to have scheelite from many localities. We have some from Korea, near Seoul. New to us, is scheelite from Washington. Two nice specimens were sent us from this state by Mrs. (and Mr.)

P. E. Mortimeyer for appraisal and fluorescence test. The short wave reaction reminds one of very good bluish hydrozincite in color and the areas are a great deal more than mere specks in the matrix (as so many scheelite specimens prove to be). Well, Mr. and Mrs. P.E.M., are you going to let all of the other collectors in on this material? Don't hide your lights under bushel baskets if they are all as bright as the ones you sent us. And Mrs. Mortimeyer, don't wait 'till you get down into depth or beyond your depth at this scheelite locality before writing us again. We prize your letter a hundred times more than the scheelite you sent (or that garnet mass, by the way, it would make good foundation stone for that museum in the backyard). Scheelite is a favorite; so many hues of bluish to whitish colors under a good short wave lamp and yours is the first with such a bluish blue. Nice!

Charlie Bennett of Horseheads, N. Y., sent in some very lovely arborescent metallic nickel. Thanks, Charlie, for such a generous batch. They are very lovely, indeed. They are naturals for mounting on Cal Gettings' plastic mounts which we will get around to doing one of these days. Those samples of Franklin fluorecents were fine also and that blue celestite crystal in matrix. If you are lucky enough to find some very good Ellenville quartz groups, I am sure other collectors will be very much interested in these also.

We strongly urge those who wish to advertise minerals (some have offered them for exchange only) to wrap and pack their specimens as firmly as possible. Also, in selecting specimens to ship, in return for cold cash, pick out only those items which you would make room for in your own carefully selected display. Damaged quartz points and merely crystallized representative specimens have little sale value unless very rare! Calcite is of little interest to buyers unless of very unusual crystal group formation or in perfect individual crystals . . . or nicely fluorescent . . . or both.

Here is an idea that may prove interesting to collectors. How many of us get into the old dog-house if we leave specimens lying around in the kitchen, dining room or living room? That fellow in the back-row needn't make it look worse by holding both hands up! The following trick is just another way to get sanction for leaving a specimen in the living room: Buy (not too many at first, two will do) unpainted picture-frames, six by eight (inches, of course) and some black velvet. Cut stiff cardboard fit the recessed edge in the back of the frames, snugly, then lay the velvet over the opening of the frame on the back of it and press the cardboard into place, pull tight and glue edges to cardboard. A wood or plastic seat can be screwed to the center of the velvet or near center (up and down) for that special quartz group or what have you that will look so very nice in such a frame. It isn't a new idea, having been used for live flowers placed in tiny glass holders which are set off so very prettily in the velvet-set frames. Shadow boxes, too are nice, especially for minerals.

Mr. Ernest W. Beissinger, dealer in facet and cabochon cut gems, fashioned in Idar-Oberstein, has invited us to come to Pittsburg to see his very large stock. This we will surely do when in that part of the country. We have seen some of these expertly cut stones and would like to see more. Those who might be intrigued should contact Mr. Beissinger at once and send for a packet of lovely stones of your own selection from his list.

Collectors who have been familiar with the Edwin S. Roth collection, should be glad to know that this fine collection will be offered for sale by The Bradleys. While we are speaking of this dealer, we might add that they have offered, for one buck, a fluorescent kaolin from Crestmore, California. Fluorescent addicts please note.

Stewart S. Merwin, of Dallas, Georgia, sent in some huge garnets, discovered, or re-discovered by him in his state. These are almandites and run up to three

inches. Smaller ones have also been found and still smaller sharper and clearer ones have been gathered in. The crystal edges of the larger garnets are fairly sharp for such a size and plenty of fine faces show all around.

The above type of find is just what we have been harping on for some time. Surely other collectors have struck it as good, if not better near *their* home town. Established and oldtime dealers cannot have everything, so such discoveries should be presented to some good dealer or dealers who will distribute them through sale to collectors. Of course, a direct appeal to collectors may be presented through placing an ad in this magazine . . . for exchange or for sale.

Perhaps you will read of the huge success of the First Mineral Symposium by the Mineralogical Society of Pennsylvania, where we were in continual amazement with the wonders of Nature and the handicraft of Man and one woman in particular. We will skip lightly over our amazement and conservation, when Mr. Frank Hall, a member and slight-of hand artist with no mean ability, succeeded in removing our flashy-colored sport-shirt from our person, without benefit of unbuttoning our coat! Mrs. Harold Evans claimed we were in cahoots with Mr. Hall. We wonder!

On page 552 of the last issue, we note happily, that an old time mineral collector and advertiser is with us again. Mr. Frank Duncan, whose superb fluorescent calcite from Terlingua, Texas, and crystallized calcite and other minerals from the Terlingua region, which now are to be found in the better collections all over the World, is once more offering such material. Several superb fluorescent calcites with that exciting blue phosphorescence (short wave) and beautiful pink reaction under long wave lamps are in our own display. No display is complete without some. 'Nuff said. Glad you are back, Frank. How are the sidewinders under the Algetita bushes doin'?

Ghosts are out of date since Hallo- we'en is over, but here is one that comes

to mind. We were scratching around on a Wheatley dump one summer day, when we thought up something about ghosts of miners who mined there in days gone by. Would, or could one obliging ghost please push up a good old time specimen for us? Just then, we felt a fluttery tapping on our left shoulder . . . probably a cricket or a locust, we thought, and paid no attention, for several nice pieces of pyromorphite were coming to light. Again the tapping and a very slight weight was felt on our shoulder. Casting a careful eye to the left, we saw a most gorgeously colored Hummingbird, saucily perched on our shoulder. He sat and stared, with his jet black bill close to our left eye. We sat and stared and presently we offered him the time of day in a soft "Hello Buddy," which he simply ignored with a mere cocking of an eye. "Well sit there, then," we offered as we continued to dig. Believe it or not, at that precise moment we unearthed a chunk of greyish quartz, a galena-anglesite silicate mixture on which were some very nice pyromorphites and a nice cavity containing the best anglesite cluster we had ever hoped to find. The cluster proved to be fluorescent. No not the big one we have mentioned earlier in this copy. Before we could thank Mr. Hummingbird, he flew off. We had something to ask, too.

Thanks to Celia Keller for her timely information on availability of sizeable chunks of Mexican or Death Valley Onyx. We cannot understand why dealers are so slow, (themselves) in forwarding us such pertinent information. We placed that bit of help-wanted in the last issue, to find out if dealers are awake. We wonder. Just chiding, don't you know, for who knows;;;...??? someone may have wanted a ton of it for a fireplace.

Hauser, Oregon's, Wrightway Gemcrafters are offering attractive sets of pre-form cabochons for \$5.00 for the holidays. Just a hint. Look up the ad and read it carefully. This leads us to something or other which may be pertinent

or impertinent. Fred Harmon, of Dallas, Texas, has some very interesting Indian Axeheads for sale. These are minerals, folks . . . the first minerals probably ever traded for in this land. The dense black type of axehead has been found in Pennsylvania, too. We wonder if the axes were sold preformed or rough or highly finished? That is, by the Indians, of course, in the old days. The Lenapes had an arsenal near Chester Springs, Pa., and near the old Graphite Mines of recent times. We discovered seats made of squarish rock arranged in a semi-circle on the top of a ridge and piles of chips were intact just as they were left by the Lenapes so many years ago. No axeheads were found, however, though many have been found in recent times . . . in that area.

Won't someone with plenty of dough, send Mr. Frank H. Waskey a Helicopter, so that he might drop into some of those Alaskan valleys in remote regions where no man has turned a pebble in search of gold, tin, jade, or what is it? Frank's articles on Alaskan adventure are too few. Perhaps some side trip with a Helicopter will give him something to write about, and we do not merely mean perhaps. Mr. Waskey did not ask for a 'copter; that's our idea. Two pound to twenty pound gold nuggets may be waiting in them thar hills.

We can dream can't we? We dreamed the other night that we were offering the Northern India sapphire-mines guards some chlorophyl chewing-gum in return for permission just to stoop down a little in order that we could pick up and retain a large flat crystal of cornflower-blue sapphire. The next day our favorite magazine came and in it was a nice bit of reading from Ed Dowse, of Salt Lake City . . . about sapphire hunting in Montana.

Once in a while we receive specimens for appraisal as to commercial value. Though we are not equipped to subject material to quantitative and qualitative analysis, we feel that we can help some-

what to steer industrial-commercial minerals into the proper channels, if given enough time. The following information on commercial beryl was printed in Iron Age and will be passed on to those interested in quantity disposal of this strategic mineral.

Beryl Program Set Up

General Services Administration has set up a program under which it will buy beryl from small domestic producers at the rate of \$400.00 per tons (.20 lb.). Jess Larson, G.S.A. head, says that three mica depots at Spruce Pine, N. C., Custer, S. D., and Franklin, N. H., will be authorized to accept up to 25 tons per year from individual producers.

Cut off date for the program is June 30, 1955, or when a total of 1500 short tons dry weight of ore has been purchased.

The flat rate of \$400.00 (.20 lb.) is for ore accepted on the basis of visual inspection. Price to be paid for analysed ore (analysis costs to be paid by the producer) will range from \$40.00 per unit (20 lbs.) for 8 percent contained beryllium, to \$50.00 per unit for 10 percent or more beryllium content.

Purpose of the buying program, Mr. Larson said, is to help develop new domestic sources, since about 90 percent of American beryllium requirements must now be imported.

End quote: It will be seen in the above, that it would most certainly pay collectors to keep their eyes open for large showings of beryl. Mr. L. W. Carpenter, M.D., of Limerick, Maine, sent in a few samples of what appear to be very good commercial beryl and from an extensive showing of pegmatite running roughly from Oxford County to the Ocean. Our own Arthur Montgomery is interested in developing a large beryl (white) deposit in an area in the South West.

Collector's Column

This column, designed to be a help to beginners in Mineralogy, began with the September-October, 1948 issue. In the last issue we became acquainted with graphite. This time let us discuss gypsum, a mineral that some unlucky people may literally become wrapped up in.

Gypsum

When gypsum is heated to between 300° and 395° Fahrenheit, some of the water of crystallization is driven off and a powder is formed. This is called plaster of Paris and forms a rock-like mass when water has been added and the material is allowed to set. This practice is commonly used in making casts for broken bones. The name gysum is derived from the Greek term referring to the calcined or burned mineral.

Gypsum is the commonest of the sulfate minerals being a hydrous calcium sulfate. It is found in extensive deposits associated with limestone, sandstone, clay, etc. Gypsum is a soft mineral—number 2 on Moh's scale of hardness. It ranges from colorless to white, gray, yellowish and brownish and may be transparent, translucent or opaque. The streak is white. There are three main varieties of gypsum—crystallized or Selenite, fibrous or Satin Spar, and massive or Alabaster.

Selenite occurs as fine crystals and foliated masses, usually transparent. The crystals are commonly tabular in habit but may be much elongated—crystals having been found up to five feet in length. They often exhibit warped or curved faces. Long prismatic crystals have been found bent into irregular and hoop-shaped forms. They also have been found intergrown in rosette-like groups and as flower like growths on the walls of caves. Large and fine crystals have come from Promontory Point in Great Salt Lake and Wayne County, both in Utah. Nice transparent crystals are found in clay at Ellsworth and other localities in eastern Ohio. Foliated

masses are common in the Lockport dolomite of central and western New York. Fine crystals are associated with sulfur, celestite and aragonite in Sicily. Very large crystals have been found at Naica, Chihuahua, Mexico.

The fibrous variety, satin spar, was so named because the parallel fiber-like structure often occurred with a satiny sheen, sometimes resembling moonstone. It is usually translucent. Nice specimens have been found at Montmartre in France; East Bridgeford, England; and near Burnt Fork, Wyoming, in the United States.

Alabaster is the massive variety of gypsum. When translucent and pure it is of value for use as an ornamental stone for statues and vases. It is usually fine grained and white or delicately tinted. Most such alabaster is mined in Italy. The commercial rock gypsum is less pure and is found in large deposits in New York, Michigan, California, and other states.

This mineral is a must for the beginning collector, get some for your collection today.

Favors All That R.&M. Stands For!

Editor R&M:

Please find enclosed check for \$3.00, for renewal on my subscription.

It is with much interest that I always look forward to any on coming issue of R & M.

Its contents are most eagerly devoured, read and reread time and again, and the information gained from its thrilling stories, by some of our "Rock Hounds" who have traveled thither and yon to glean from nature's store house, first hand information, and have so concisely interpreted their adventures in God's great creation.

It is with the highest esteem, and appreciation that I favor all that "R & M" stands for.

James Neal
27 New St.,
Mount Joy, Penn.

Nov. 3, 1952



FOSSIL DEPARTMENT

Conducted by EDWARD T. BARONE

48 Elmwood Road, Verona, N. J.

Welcome to this, our new department. Although we acknowledge the fact that fossil collectors are in the minority in the Association's membership, there are many of us who do collect and study these fascinating objects and it is to all paleontologists this department is dedicated. Also, mineral collectors have from time to time secured fossils by gift or discovery and in most cases they have been hidden in an obscure corner of the cabinet, neglected by appreciation. It is also the hope of the "Fossil Department" to enlighten the mineralogists as to the pleasures of the paleontologists.

When the writer was only ten years old he discovered his first fossil. It was a strangely pitted rock, which I found in a brook's bed. Imagine my astonishment when the American Museum of Natural History identified it as a Devonian coral, hundreds of millions of years old. Not only that did they tell me, but also that it was carried to my state by a glacier many thousands of years ago and that the rock represented the remains of living marine animals which actually lived long before the advent of man upon the earth. Was this not the fairy tales of wonderland brought right to a child's front door? It was this specimen, I believe, which started my adventures among fossils.

Such, then, is the spell which holds fossil enthusiasts—born of natural curiosity and saturated in prehistoric lore. True, there rarely are colored fossils to admire and neither are they in exquisite crystal form as minerals often assume. The appeal fossils have no other rock, however rare, however valuable, possesses. In them the earth itself has written its most legible diary of creation and evolution, from the lowly bacteria to mankind. It is

the story of life, from the humble spark to the present conflagration.

Fossil Identification

Unlike minerals, a fossil is ultimately identified through its basic relationship to living organisms. Species are often determined by the slightest variations in biological structure, which makes identification at times very difficult. No matter how poorly preserved a mineral may be a professional mineralogist can very probably identify it by the many means at his command. On the other hand, a fossil often loses its identity completely. Erosion, heat, pressure, and diastrophism each or all may contribute towards erasing a specimen's identity. Moreover, fossils are more often than not, especially those of large organisms, found in scattered parts—a tooth, a toe bone, a piece of skull. From these slight evidences the paleontologist has to establish the name of the animal. This often is an imposing task. In the mineralogical field a piece of calcite, for instance, would be no different were it found in a Mexican mine or on a Norwegian mountain top; calcite is calcite wherever it is obtained. Fossil brachiopods, however, may differ from one another if found a mile apart in horizontal distribution or within a foot in vertical distribution. Being former living animals and plants, fossils are subject to most natural laws which govern the present-day distribution of life, and their presence or abundance in any formation is determined by ancient migrations, climates, topography, and environment as well as geological processes. All this makes for a unusual complexity which the paleontologist knows too well.

Collecting Fossils

The collection of fossils, just as none of minerals, generally commences with

one or two specimens. Soon, however, the collector finds himself "snowed-in" with material. It is most unusual to find a professional paleontologist accumulating all kinds of fossils, since the field is so vast. You will find these men of science specializing in specific fields embracing certain species or even certain organisms of definite ages, such as Silurian bryozoans, Cambrian trilobites, or Cretaceous cephalopods. These men are of necessity specialists and this should be a hint to amateurs contemplating collecting fossil material. Do not collect for collecting's sake only; study your specimens and know them thoroughly. Narrow your cabinet to include only material which presents a pattern of unity. Become an "expert" in your own field.

Label your specimens, not like minerals, but in keeping with actual paleontological procedures. On the label you may give the "common" name, but more important the scientific name, in full, if possible. Also, the exact locality, its geological age, and formation which yielded it. In regards to locality, the label should so read that anyone would be able to find the exact spot where it was found with a minimum of difficulty. All these precautions will increase your knowledge and add considerable value to your collection.

There is no doubt that most collectors like to "show-off" their pastime to

friends, and they are thrilled when people admire their exhibit. Lay folk have no trouble being inspired by viewing a collection of showy minerals, but to them fossils, although interesting, are drab in comparison. A fossil collection, however, can be made so interesting that its other aspect would be overlooked. It can be so arranged (museum fashion) as to be almost self-explanatory. One exhibit can be a series depicting life on earth from the, let's say, Cambrian through the Silurian, representing so-and-so many millions of years. Another might be fossil echinoderms, accompanied by several preserved modern forms. Or fossil plants along with their modern survivors. Use signs and photographs profusely to enliven the display. Be prepared to answer all questions concerning your hobby. Have illustrated books handy to plunk into your visitors hand. Truly, you can make your hobby one of a million wonders to the layman!

Help, Please

As with other departments of this magazine we can not function properly without aid from our members. Please write the Editor of the "Fossil Department" anything of interest to fossil enthusiasts. Accounts of recent trips, photographs, sketches, news items, or just an ordinary "Let's get acquainted" letter would be more than appreciated.

Reads It From "Kiver to Kiver!"

Editor R&M:

Another year of ROCKS AND MINERALS has come to an end but its influence and inspiration contained in the articles will continue indefinitely. Am enclosing my renewal. I do not want to miss an issue as I look forward to it and read it from "Kiver to Kiver."

May you be spared to carry on in your wonderful work!

Oliver A. Mason
319 26th St.,
Ogden, Utah

Dec. 15, 1952

Re-Read More Carefully!

Editor R&M:

Each issue of R & M is read from cover to cover and after the first reading each article is re-read more carefully. One publication is about worn out before the next one arrives.

Gertrude M. Hannen
1039 Hollywood Ave.,
Chicago 40, Ill.

Oct. 14, 1952

ROCKS AND MINERALS

A Plea For A Monthly!

Editor R&M:

I'm happy to renew my subscription for ROCKS AND MINERALS. I enjoy it to such an extent that 2 months between issues seems like ages. I'd like to see the magazine become a monthly again and hope that someday you may have enough help to allow this—even if a proportionate increase in subscription rates is necessary.

Wesley A. Crozier
7 Crozier Court
Fair Haven, N. J.

Nov. 8, 1952

Really Enjoys R.&M.!

Editor R&M:

I really enjoy R & M and truly think there is no better magazine published. Always look forward to the next issue and keep every one. Have them all back about 7 years.

Perry N. Williams
503 Hillcrest St.,
El Segundo, Calif.

Dec. 4, 1952

THE SAND COLLECTOR

Conducted by PETER ZODAC, Peekskill, N. Y.

Items on interesting sands wanted.

Please send them in.

Mining Black Sand in Trinidad, Calif.

Just a year ago we had some interesting correspondence with P. A. Secor, Box 238, Bradenton Beach, Fla. Back in 1932 Mr. Secor had done some placer gold mining in upper California—at Trinidad, Humboldt County. Trinidad is a little town on the Pacific coast.

A letter, dated Jan. 31, 1952, from Mr. Secor reads:

"Enclosed is a picture of me mining gold-bearing black sand in upper California near the old whaling station at Trinidad. I brought the water from a spring in the hill by means of a redwood wire-wound pipe, which I had dug up at an old canning plant. In final cleanup I attached a wooden faucet to the end of the pipe to control the water supply. I took all the riffling for the day and ran it back through the sluice but would take out apron and have very little pitch to sluice on bottom which was a redwood board. The sand, which consisted of the black magnetite, gold, agate, pyrite, and other minerals, would start moving slowly. A grey deposit was

always covering the gold but I never did find out what it was; it may have been worth something as another fellow was saving it—it was real heavy."

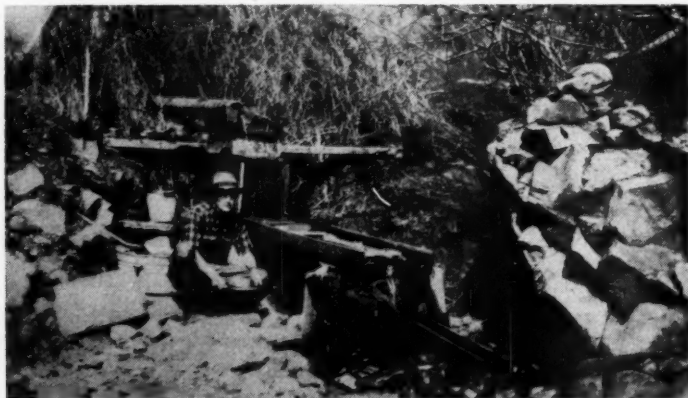
Garnet Sands from Georgia

A letter, dated June 25, 1952, comes from S. P. Cronheim, 65 Forsyth St., N. W., Atlanta 3, Ga. It reads:

"Your page on sands interests me as I have in the past operated gold placer mining developments.

"Under separate cover I am sending you two vials containing sands obtained from gold concentrates in this State. No. 1 is from Dukes Creek, L.L. 89, White County. These sands are fairly coarse and locally called rubellite sands.

"No. 2 contains sands from the Chattooga River in the Nacoochee Valley, L.L. 75 & 76, White County. This location receives the sands from Dukes Creek and the travel is about four miles. They have been further abraded and are very fine. The local miners say that they are as fine as a frog's hair. The origin of the sands is the same as those from Dukes Creek."



P. E. Secor mining gold bearing black sand at Trinidad, California.

The sand from Dukes Creek is coarse grained and reddish, consisting chiefly of pink to reddish garnet. Minor amounts of the following minerals are also present—black magnetite, brown monazite, colorless quartz, black rutile, and colorless zircon that fluoresces orange under the Mineralight. Because much of the garnet has a color similar to rubellite (tourmaline), may be the reason for the garnet being called rubellite sand.

The sand from Chatooga River is very fine grained and reddish. It, too, consists chiefly of garnet with minor amounts of green epidote, black magnetite, brown monazite, colorless quartz, black rutile, large brownish-black staurolite, and colorless zircon that fluoresces orange under the Mineralight. No gold could be spotted in either of the sands.

Beach Sand from San Francisco, Calif.

From the beach in San Francisco (San Francisco Co.), Calif.,—near Fleishhacker Zoo on the Pacific Ocean—we have received an interesting sand sample from Arthur W. Browne, 623 Palo Alto Ave., Mountain View, Calif.

This is a medium grained, dark gray sand consisting chiefly of quartz (colorless transparent, brown, smoky, reddish), green to dark green olivine, light green epidote, and a little black magnetite.

Beach Sands from New Haven, Conn.

Two interesting sand samples have been received from Leslie Sweetman, 228 Dover St., New Haven 13, Conn. One sample comes from City Point which is located at the west side of New Haven Harbor. It is a fine grained reddish sand consisting of garnet (reddish, pinkish), quartz (smoky, white), black magnetite, lustrous black hornblende, and a little green epidote.

The other is a coarse, gray sand—all quartz (smoky, white, colorless and brownish). This sand was dredged from New Haven harbor at between 35 and 50 feet when the Government deepened the channel.

New Haven is a city and county seat of New Haven County; it is 4 miles north of Long Island Sound. The com-

modious but shallow New Haven harbor is formed by the confluence of the Quinnipiac, Mill and West Rivers.

"If anyone will drop me a line, I will be glad to swap sand samples with him"—paragraph in Mr. Sweetman's letter dated Sept. 21, 1952.

Building Sand from Moose Lake, Minn.

From a gravel pit located just north of Moose Lake, Carlton Co., Minn., we have received an interesting sand sample sent in by A. F. C. Heiser, Box 165, Fairmont, Minn.

This is fine to very coarse dark reddish sand consisting chiefly of quartz and rock. The sand contains quartz (reddish agate, small amounts of reddish carnelian, gray chalcedony, red jasper, brown and smoky quartz), white calcite, brown limonite, and a little black magnetite; the rocks are black basalt, gray mica schist, and red granite.

Rhyolite Sand from Garnet Hill, Nevada

At Lane City, White Pine Co., Nevada, is Garnet Hill which received its name from the fine garnets it contains. From this hill a sample of sand has been sent us by Roy Shoemaker, 1827 Drescher, San Diego 11, Calif.

This is a dark gray fine to coarse sand consisting chiefly of gray rhyolite with some gemmy smoky quartz, dark red (almost black) garnet with sharp faces, and a little black magnetite.

"Garnet Hill is part of the mountain that lays between Ely and Ruth, 3 miles northwest of Ely. It is in fact right on the edge of Lane City,"—from Mr. Shoemaker's letter dated Sept. 8, 1952.

River Sand from Near Woodstock, N. H.

From Pemigewasset River, near Woodstock, Grafton Co., N. H., we have received a nice sand sample sent in by Mrs. Shirley W. Gratsinger, R.D. # 1, Binghamton, N. Y.

This is a dark grayish medium grained sand which consists of quartz (chiefly colorless, some milky and a little amethyst), lots of black biotite and flesh-colored feldspar, some silvery muscovite, and a little black magnetite.

Beach Sand from Seneca Lake, N. Y.

Seneca Lake is one of the famous Finger Lakes of Western New York. From a beach at Geneva, Ontario County, we have received a sand sample that was collected by Carol Turner, 1029 Spring Brook Ave., Moosic 7, Pa. (sent in by Rev. Wm. J. Frazer of Moosic).

This is a fine grained gray sand consisting chiefly of quartz (colorless, with some brownish, also lots of almost black chert). Tiny amount of black magnetite and a considerable amount of broken shells also present.

Hornblende Sand from Hunter Island, N. Y.

East River, which borders the eastern shores of Manhattan Island (New York City) contains a number of small islands of which one is Hunter (popular with picnickers). From this island we have received an interesting sand sample from Thomas A. Oleszkowicz, 6969 Parkwood Ave., Detroit 10, Mich.

This is a fine grained black and white sand consisting chiefly of black, lustrous hornblende, with quartz (colorless, smoky, white), pink garnet, white muscovite, and black magnetite.

Monazite Sand from Oconee Co., S. C.

The following letter, dated July 1, 1952, was received from Dr. A. S. Furrison, Assistant State Geologist, 425 State Capitol, Atlanta 3, Ga.

"I am sending you a sample of monazite sand from Oconee County, South Carolina. This sand was collected two miles below the Toccoa (Georgia)—Westminster (South Carolina) Highway, on the South Carolina side of Tugaloo River.

"An average monazite sand contains about 60 per cent rare earth elements, and should contain about five per cent thorium and 0.5 per cent uranium. Formerly, this mineral was mined as a sand because of its thorium content, used as a filament for tungsten lamps, radio tubes, etc. Its extensive concentration, especially as beach sand, means that it may be an important source of uranium in the future.

"This pan sample contains some well formed zircon crystals which show zoning, pink and deep red garnets, and small amounts of other rare heavy minerals. The monazite is very radioactive."

This is a coarse reddish-brown sand. It consists chiefly of brownish monazite, black rutile, pink to red garnet, green epidote, colorless zircon that fluoresces orange under the Mineralight, and a small amount of black magnetite.

Creek Sand from Hermosa, S. D.

John P. Connor, Box 522, Armour, S. D., has donated a sample of sand which he collected from Battle Creek in Hermosa, Custer Co., S. D.

This is a very coarse dark grayish sand. It consists chiefly of smoky quartz, white to pale pinkish feldspar, dark brown limonite, and dark brown garnet xls. The garnet is so dark that it looks almost black, but fairly good crystal faces are still present.

Desert Sand from Grand County, Utah

Some few months ago we received an interesting sand sample from C. M. Allen, Bay House, Pembroke, Bermuda Islands. Mr. Allen, while on a trip west, had picked up the sample at the Arches National Monument in Grand County, Utah.

This is a reddish-brown fine grained sand consisting entirely of brownish quartz, with a minute amount of black magnetite.

River Sand from Healy, Alaska

William Freiter, Healy, Alaska, has sent in an interesting sand sample from his area. A letter from him, dated Nov. 18, 1952, reads as follows:

"I am sending you a sand sample from the Nenana River which flows by here, about 1/4 mile east of Healy.

"Here at Healy we have Alaska's biggest coal mine. You will find some small pieces of coal in all the sands here. Also floating gold, but I do not know if any is in the sand sent you."

This is a fine to coarse grained gray sand consisting chiefly of quartz (colorless

to smoky), silvery flakes of muscovite, dull black coarse grains of bituminous coal, and a few coarse grains of mica schist. No gold could be seen.

Ilmenite Sand from British Guiana

From a friend who was formerly residing in British Guiana we have received a small sample of ilmenite sand which comes from Robello Creek, Mararuni, British Guiana.

This is a fine grained black sand—all black ilmenite except for a small amount of colorless to smoky quartz.

Lake Sand from Lake Jasper, Canada

From Sherman S. Shaffer, P.O. Box 4018, Baytown, Texas, we have received a sample of sand and his letter, dated Oct. 20, 1952, which reads as follows:

"Last July we vacationed in the Canadian Rockies. We thought that the sand at Lake Jasper, near Jasper, Alberta—in Jasper National Park—was very interesting. I am sending you a few ounces of it in the attached package.

"Under the hand glass it is seen to be a good sample of the quartzites and other metamorphic rocks that make up the mountains there. It is, I assume, grist from the grinding of the glaciers."

This is a dark gray fine grained sand consisting chiefly of grayish quartzite and other metamorphic rocks with some quartz (colorless, smoky, and a little rose).

Basalt Sand from Halls Harbour, N. S., Canada

Mr. and Mrs. John F. Mihelcic, 16543 Appoline, Detroit 35, Mich., were in Nova Scotia, Canada, last summer and they were good enough to collect for us some sand. One sample comes from Halls Harbour, Kings Co., Nova Scotia; Halls Harbour is on the Bay of Fundy.

This is a very coarse dark gray sand. It consists chiefly of dark gray basalt (some showing imbedded green prehnite, quartz, and white natrolite) with very small amounts of white natrolite and grayish chalcedony.

River Sand from Chilliwack, B. C., Canada

Emily Leavens, Cultus Lake, B. C.,

Canada, sent in a sample of river sand from her section of Canada. Her letter, dated Sept. 10, 1952, tells us:

"The sand comes from a sandbar on the Frazer River, about 2/3 mile east of Chilliwack. If no other interest, it was part of a bear track—nice big bear, too."

This is a dark gray fine grained sand consisting chiefly of white feldspar, silvery muscovite, smoky quartz, and a very small amount of black magnetite.

We have samples of sands collected from ant hills, gopher holes, geodes, well borings, etc. etc. and now we have one from a bear track! We will not be too surprised if one should come from a snake's den. Wow! Wouldn't that be something!

Beach Sand from Varadero Beach, Cuba

Varadero Beach, in Matanzas Province, is on the north coast of Cuba. A nice sample of sand from this famous beach has been sent us by Ellis C. Soper, Franklin, N. C., who visited the locality last summer.

"One of the finest beaches in this Continent because of its extension, the color of the sea that has deserved the title of 'Rhapsody in Blue,' given to it by an American writer, its soft white sand that looks like powdered silver, the mildness of its climate and the incomparable beauty of its scenery. At all seasons of the year this beach is the meeting place of a fashionable, cosmopolitan world.

"Varadero is on the Atlantic Ocean, 114 miles from Havana by highway, past the cities of Matanzas and Cardenas and through the most glorious landscapes."—Cuba, Ideal Vacation Land (Tourist Guide, 1951-1952). Issued by Cuban Tourist Commission, 122 E. 42nd St., New York, N. Y., pp. 60-61.

This is a coarse gray sand. It consists almost entirely of broken up white sea shells (some pinkish and brownish also present) with a very small amount of grayish coral sand and silvery muscovite flakes. Some of the shells fluoresce cream under the long wave light.

Beach Sand from Isle of Wight, England

On the Isle of Wight, in the English Channel (off the south coast of England) is a locality known as Alum Bay (named after the alum that was formerly obtained here from the clay). At the southern extremity of the bay are three isolated and sharp-pointed masses of white chalk known as the "Needles" (100 feet high).

From Alum Bay, at the Needles, we have received an interesting sand sample that was sent in by P. D. Boerner, 122 Albert Place Mansions, Lurline Gardens, Battersea SW 11, London, England.

This is a light chocolate-brown medium grained sand consisting chiefly of quartz (smoky, reddish) with brown clay. Most of the quartz grains are stained brown by clay and it is the clay which gives the sand its brown color.

Beach Sand from Dakar, Africa

Dakar, the capital of French West Africa, is located on the most westerly tip of Africa. A sample of beach sand from Dakar has been received from Glen E. Kiser, Douglass, Kans.

This is a brownish, fine grained sand—almost all quartz (colorless, brownish), with some broken up sea shells (white, brownish).

Beach Sand from Hanalei Bay, Hawaii

Hanalei Bay is on the northern coast of Kauai Island (Hawaii Islands). On May 5, 1952, Mr. and Mrs. R. L. Sylvester, 154 Parkside Ave., Syracuse 7, N. Y., visited the bay and from its beach collected some sand of which a nice sample was sent us.

This is a brown, coarse sand. It consists entirely of sea shells—brown, white pink—except for a tiny amount of black magnetite.

Correction on Waikiki Beach, Hawaii

In the May-June, 1952, R & M, p. 283, a black sand was described whose locality was given as Waikiki Beach, (Oahu Island) Hawaii. John S. Albanese, P.O. Box 536, Newark 1, N. J., writes us that a mistake has been made, that black sand does not occur on the famous beach nor anywhere on Oahu Island. We are

grateful to Mr. Albanese for calling the error to our attention; his letter, dated Nov. 8, 1952, reads as follows:

November 8, 1952

Dear Sir:

"I just noticed in the May-June issue of ROCKS AND MINERALS, the note under "The Sand Collector" in which black sand is described as coming from Waikiki Beach on the island of Oahu, Hawaiian Islands.

"Please pardon me for doubting this sand came from Waikiki Beach, for I have been there several times. The sand on Waikiki Beach is white, and consists entirely of coral. The island of Oahu, about 35 x 45 miles, is fringed with coral reefs, and all the beaches surrounding this island are made up of ground coral. In fact, even on Waikiki Beach, it is dangerous to tread on the sand barefooted, as sometimes a jagged piece of coral is met with, and this coral is as sharp as glass. Incidentally, the city of Honolulu has no beach, as the entire part of the city facing the water is taken up by piers and shipping activities. Waikiki is but two miles from the outskirts of Honolulu, and is the bathing resort of the island on the south. A few little known beaches are found at the north end of the island.

"The entire island of Oahu is covered with a brick-red soil, which, according to geologists on the island, is a sheet of red volcanic ash thrown out by the only secondary lava cone on the island. There are numerous other cones on the island, in fact, several within the limits of the city of Honolulu, including Punch Bowl crater, in the heart of Honolulu. All these are cinder cones, and what little ash fell on the beaches was quickly washed away by the waves. Diamond Head, a cinder cone flanking the beach at Waikiki, shows absolutely no traces of ash on its flanks nor at its base. This cone, the youngest on Oahu, is at least 5000 years old. Calcium solutions seeped into some cavities on the flanks of Diamond Head and later crystallized. These calcite crystals, found on the beach at Waikiki, were believed by

early English sailors to be diamonds, hence the name "Diamond Head." Diamond Head sits at one end of Waikiki Beach.

"In 1943, while serving in the U.S. Navy, I spent several weeks on the island of Oahu, looking for minerals—and sand. I covered every foot of the island, all day long for seven weeks, as I had liberty every day from 0900 (9 a.m.) till 1800 (6 p.m.) and I did not miss any part of fringe of the island. All I ever saw was coral sand, and as coral is not considered a mineral, I did not collect any. You must take my word that there is no black sand on Oahu.

"Then again, the channel leading to Pearl Harbor is dredged periodically. I was there while the dredging was on, and all I saw was white to brown mud. Also, a few miles from water front at Honolulu, the Navy built a Naval Air Base, known as Rogers Field. The channel leading into Honolulu was dredged, and widened, and all the silt was pumped at the site of Rogers Field, as fill. This fill was absolutely pure white, and about 99% pure coral.

"I could go on like this for hours, as I know Oahu well, because while stationed in Honolulu, I wrote to the Geological Survey of Hawaii for literature on the Geology of the island. I have several text books on the geology of the entire Hawaiian Archipelago, and if you might be interested in reading the volume on Oahu, I shall be very glad to lend you this book, to be returned at leisure."

Beach Sand from Katwyk aan Zee, Holland

Katwyk aan Zee in South Holland Province, Holland, is a popular Dutch summer resort on the North Sea. From this beach we have received a small sand sample that was sent in by Glen E. Kiser, Douglass, Kans.

This is a brownish-gray sand, fine grained, and consists chiefly of quartz (colorless, smoky, brownish) with some broken up sea shells (whitish, brownish). Sand dunes are present on the beach and the sand sample sent us may also represent dune sand.

Beach Sand from Leone, Samoa

On the southwestern coast of Tutuila Island (on Leone Bay) is the small village of Leone. From the beach at Leone we have received an interesting sand sample that was sent in by Max Haleck, Pago Pago, Tutuila, Samoa.

This is a very dark brown coarse sand consisting chiefly of olivine (pale to so dark brown that it is almost black). Small amounts of black magnetite (all rounded, some nicely polished) with white to brown sea shells are also present. Though some of the olivine is of gem quality, it is not an attractive sand.

Tutuila (one of the Samoas) is an American island in the Pacific Ocean.

Glacial Sand from Loch Lomond, Scotland

Loch Lomond, the "Queen of the Scotch Lakes," is in the western part of Scotland. It is a long, mostly slender lake, dividing two counties, Stirling (on the east) and Dumbarton (on the west). Loch Lomond is famous for its beauty and for its lovely islands of which one is Inch Cruim (Round Isle) in the County of Stirling. From Inch Cruim we have an interesting sand sample that was sent in by Sandy Ramsay, 1015 Aikenhead Road, Kings Park, Glasgow S4, Scotland.

This is a coarse, brownish, glacial sand. It consists chiefly of quartz (brownish, which gives the sand its color, also smoky), pinkish to brown garnet, lustrous blackish limonite, and white to pinkish feldspar.

Maine Sands Prove Popular

Editor R&M:

Just thought that you would be interested to know that I have received quite a few requests for sand from Kezar Lake, Maine, from people who read our magazine in detail. Am trying to get a "native" up there now to fill orders. It seems that lots of people collect sands too.

E. L. Sampter,
New York, N. Y.

December 1, 1952

Club and Society Notes

Attention Secretaries—Please submit neat copies. Give dates and places of meetings. Check names for correct spelling.

East

Mineralogical Society of Pennsylvania November Meeting

The semi-annual meeting of the M. S. P., combined with a field trip was held November 2, 1952, at the stripping operation of the Beasley Coal Company, St. Clair, Penn. — 95 members and guests attended.

Treasurer Walter Bancroft gave the total active membership as 188. Robert Ennis joined the army and his resignation as Chairman of the Safety Committee was accepted. Mrs. Florence Evans was appointed to take his place.

James Irvine, advisor to the Junior Members, suggested that an adult be responsible for each Junior on a trip. This was acted upon affirmatively.

In the absence of Mr. M. Kissileff, Chairman of the Samuel Gordon Memorial Committee, Mrs. Helen Bauhof reported excellent progress. A discussion took place on the possibility of erecting a plaque in memory of Samuel Gordon in the Mineral Hall of the Philadelphia Academy of Natural Sciences.

A discussion of joining the Eastern Federation took place and it was decided that the President would poll the membership.

Field Trip

The field trip to the stripping operation of the Beasley Coal Co., held on November 2, 1952, was attended by 95 members and guests of M. S. P.

Without the signs put up by Bill and Edna Hunt and their crew we would never have found our way in or out of these labyrinth-like diggings.

Dr. Arthur Hopkins, Chairman of the Paleontology section, had a table exhibit of the typical fossils to be found in the area. He told us that the coal deposits of St. Clair are Pennsylvanian Carboniferous in age, 230-260 million years old. The warm humid climate of that time favored coal making. Reptiles and insects appeared while spore bearing trees dominated the swamp forests. To be found in the shale were ferns, Calamites (horse tails) that grew to the height of 100 feet and scouring rush, a species of horse tail. We found some trunks 2 feet in diameter.

THE KEYSTONE NEWSLETTER gives us a picture of St. Clair Geology: "A syncline is a downfold of a rock layer (imagine a horseshoe with the open end up); an anticline is an upfold (the horseshoe with the closed end

up.) An east-west cross-section of the Alleghenies (the folded Appalachians) shows a series of folds, anticlines and synclines. Erosion of steep-pitching folds leaves the outcrop of any one stratum as a zigzag line or band. This is the most conspicuous feature of the geologic map of east-central Pennsylvania, where the harder strata forms zigzag ridges. The anthracite region of Pennsylvania is one of the world's best types of such topography. The coal beds of the Pottsville basin lie in a synclinal valley, with the Pottsville sandstone (also of Pennsylvanian age) forming a ridge on either side of the younger coal beds."

Ben Birchall, Chairman of the micro-mount section and his wife, Betty, had a unique microscope set-up. They mounted a binocular microscope on the door of their car and drew their illumination from a number 1158 tail light lamp which got its power from the battery. As we brought our specimens to them all afternoon they showed us the beauties of the micro world and aided us in identification. Their set-up converted many of the members into micro-mount enthusiasts.

Marvin Brubaker by dint of much walking and much work acquired a 2-foot plate of perfect rock crystals. Harry Ranck found some excellent specimens of siderite xls on quartz and everyone who looked found specimens.

Mrs. Ellen Davidson set out a table display of rough and polished specimens of cordierite, sodalite, dumortierite and lapis-lazuli. She answered questions all afternoon, and wound the field trip up with a short and interesting talk on these minerals.

The society was happy to have Jim Hart's friends, the Reddington brothers, (experts in radio-active minerals and pioneers in this field) from Denver, Colorado, and their party as guests. They showed us many interesting specimens.

M. S. P. welcomes out-of-state collectors on their field trips. Information concerning trips will be gladly given by Mrs. Helen Bauhof, 352 Church Lane, Philadelphia 44, Penn., or Gerry & Will Shulman, 113 Huntington Terrace, Newark 8, New Jersey. A post card will bring the information.

Field Trip to Mineral Hill, Delaware Co., Pa. — Nov. 16, 1952

It was a rare sunny day, unusually warm for mid November, when 90 members and guests of M. S. P. invaded the heavily wooded area of Mineral Hill. Like a mechanized infantry they arrived in 39 cars and soon were

busy digging foxholes with every type of tool imaginable.

Ken Fisher, our advance scout, did a superb job and as we approached the locality a big sign read, "Mineral Hill-M. S. P." with an arrow pointing the way. There also was a sign, "Park Your Car and Walk in." As our advancing army infiltrated the wooded path we were confronted with signs on all sides reading: "Actinolite, Moonstone, Beryl, up the Crick." To the right another sign, "Deweylite" (arrow). Following the arrows we came to a sign saying, "Deweylite—start digging," (arrow pointing to the ground.)

Advancing slowly we came to an opening where the lapidary section was to hold its meeting; this was the M. S. P. command post. Here we found a case with all the local materials, labeled and another sign, "This Is It." Then from this nerve center there were signs everywhere pointing out where to go.

Anyone who didn't get any specimens must have had his eyes closed. Even President, Len Duersmith, collected.

We sorely missed Bob Ennis' services, but consoled ourselves with the fact that Uncle Sam's need of his was greater than ours.

Harry Kofke gave a very interesting talk on Topaz.

We saw members who had never been on trips before and saw members digging whom we'd never seen dig before. Every place we went there was someone in a hole. Len Morgan and his pal, Charles Priestly, were seen dragging a big box of something out of the woods. We wondered if Charles Thomas was hunting minerals or catching crayfish; he spent lots of time in the creek. Perhaps, being our expert on panning minerals, he was panning gold? Dr. Arthur Hopkins hit the Actinolite bonanza and shared his find with everyone, as all good M. S. P. members do. The whole place sounded like a battlefield or a heavy industry going full blast.

By the looks of the excavation he was in, member George Papashvily, author of "*Anything Can Happen*," seemed to be enjoying casting the pen away for the spade.

New Appointments

Ben Birchall to assist Mr. Kissileff on the Samuel Gordon Memorial Committee. Mrs. Florence Evans, Chairman of the Safety Committee. William Hunt to assist Ben Birchall, Chairman of the micro-section. Dr. J. W. Price and Mr. Howard Ennis, to assist Dr. A. H. Hopkins, Chairman of the Paleontology section. Mr. Frank W. Hankins, Chairman, Mr.



Members of the Safety Committee posting signs at the Keystone Trap Rock Company, Cornog, Pennsylvania. Robert Ennis of Wilkes-Barre, Penna., chairman; Mrs. Florence Evans, Doylestown, Penna., September 7, 1952.

John Bertrand, Mr. Walter Lawn, Mr. Paul Seel, members of the Nominating Committee for officers of the 1953-54 term. Mr. Ben Birchall, Chairman Mr. Von H. Byre, Dr. A. H. Hopkins as an auditing committee to check the books for the annual meeting in May. Mr. Howard Ennis has been appointed Society Historian.

Progress and Accomplishments

John Bertrand at the behest of the Eastern Federation of Mineralogical and Lapidary Societies served as a judge of competitive exhibits at that organization convention in Newark, New Jersey, in October.

John Kuppinger, with the cooperation of John Gibson, Dr. Arthur Hopkins and Charles A. Thomas, has compiled an outstanding paper on the fluorescence of minerals under different types of lamps. There is a listing of 215 minerals and their reaction to five types of ultraviolet lights. The paper has been printed by the Society in a limited edition of 100 copies.

Gerry and Will Shulman
Co-Chairman Publicity Committee
113 Huntington Terrace
Newark 8, N. J.

Mineral & Lapidary Society of Pittsburgh, Pa.

The regular monthly meeting of the Mineral and Lapidary Society of Pittsburgh, Pa. was held Friday, Oct. 17, 1952, in Classroom "A" first floor of the Carnegie Library in the Oakland district. A feature of the meeting was an interesting talk on "Some basic terms in Mineralogy" by Edwin A. Wolf of Pittsburgh. The officers of the Society are as follows: President, Norval C. Hoge, 1115 Jerome St., Pittsburgh, Pa.; Vice President, William J. Lewis, 360 Stanford Ave., Pittsburgh 29; Corresponding Secretary, George Horak, 401 Lydia St., Carnegie, Pa.; Recording Secretary, Mary Honeycutt, 224 Spencer Ave., Pittsburgh 27; Treasurer, Kenneth B. Adams, 116 Lawrence St., East McKeepert, Pa.

Nutley Mineralogical Society

Eastern Federation Convention, October 9-12

The Nutley Mineralogical Society recently joined the Eastern Federation of Mineralogical and Lapidary Societies and presented an exhibit of 89 minerals from the famous zinc mines at Franklin, New Jersey, at the 2nd annual Gem and Mineral Show at Newark, N. J.

The members who went to the convention enjoyed meeting many old friends and "pen pals" and also enjoyed the excellent programs given to the convention by the committee. Among the excellent programs were a lecture by Dr. Frederick H. Pough on "Ye Complete Mineral Cabinet" and a lecture and motion picture by Dr. Victor B. Meen, of the Royal Ontario Museum on "Chubb Crater". Both the programs as well as the convention itself were enjoyed by all present and many of the members availed them-

selves of the opportunity to exchange United States legal tender for excellent mineral specimens.

October Field Trip

Together with almost the entire personnel of the Convention, the members of the Nutley Mineralogical Society journeyed on a pre-arranged field trip to the Buckwheat Dumps at Franklin, New Jersey. It was to be a memorable day in the history of the dumps, for a steam shovel and bulldozer had been engaged to turn over the huge rockpile so that all of the collectors there might find good specimens, and these two machines were hard at work when the members of the Nutley Society arrived.

As far as the hopes of really rare Franklin minerals went, these were destined to remain unfulfilled, as none of the Parker Shaft rarities that have made Franklin such a mineralogical byword were found. However, excellent specimens of the commoner Franklin minerals were found, such as franklinite, willemitite and zincite, and these were avidly collected by people who came from areas where Franklin minerals were extremely rare.

When the members of the Nutley club knocked off for lunch, they met Mr. Albert S. White, president of the Newark Mineralogical Society. Mr. White congratulated the club on having joined the Eastern Federation and presented the members with a large specimen of massive rhodonite, a rare mineral on the dumps at this time, and a gift which was certainly appreciated by the members.

After lunch, the members journeyed over to the nearby Franklin Iron Co. limestone quarry, where norbergite, fluorite, and a rather rare mineral, corundum, were collected. The club left Franklin early to avoid traffic, but excellent specimens were found by those who stayed and went over the dumps with ultraviolet lights at night. This concluded one of the club's most successful trips, and a hope is expressed that something of the same sort can be done by the Eastern Federation at the Convention next year.

November Field Trip

The amazing list of minerals that were listed as having been found at Booth's bismuth mine at Monroe, Connecticut, drew a club field trip to that place and to the nearby tungsten mine at Trumbull on November 8, 1952. The trip up to Monroe was uneventful, except that we had the collector's usual difficulty in locating the place. We were sidetracked once into a quartz pit that yielded some nice masses of rose quartz, but we finally located the object of our quest in the woods south of Monroe, at a mine entrance and a small dump that was thoroughly picked over before the club left.

Contrary to the hopes of the members, native bismuth, that mineral that had made the mine famous, was conspicuous by its

absence. However, nice specimens of wolframite, a tungsten ore, and weathered arsenopyrite were turned up, and an eleventh-hour find of melanterite on altered pyrite was certainly welcomed by the members, who collected several specimens of this uncommon mineral.

The Trumbull mine yielded to the members only a yawning opening that stirred the hearts of the cavers among us as a few specimens of rather poor scheelite, shown as spots in the rock under fluorescent light. Also found were several specimens of an as-yet-unidentified pyroxene. However, the trip did yield several minerals uncommon to this part of the country, so was pronounced a success by all present.

The Nutley Mineralogical Society's field trips for 1953 show a tendency towards new localities. The club now has a battery-powered ultraviolet unit, and night trips to fluorescent mineral localities are on the agenda. Any persons interested in attending these trips or in joining the club should contact the secretary.

Bevan French, Secretary
98 Alexander Avenue,
Nutley 10, New Jersey

Chattanooga Rock & Mineral Club

The Club met Sept. 23, at 7:30 p.m., in Room 108, Brock Hall, University of Chattanooga (Chattanooga, Tenn.). Mr. C. F. Parris of Copper Hill, Tenn., brought in a considerable number of minerals which were examined with great interest. Mr. Parris said that the Copper Basin Mineral Club was being organized at his home. For the regular program Mr. Hans Thurnauer showed a number of Kodachromes of the Alps where he spent several weeks.

Field Trip Oct. 18

The Club drove to Ducktown, Tenn., where it was met by Mr. Parris and Mr. Nelson, geologist for the Tenn. Copper Co. Mr. Nelson took us to the Burra Burra mine where he displayed diamond drill cores under fluorescent light. Then we went to an elevation behind the mine to get a view of the barren landscape as colorful as the Painted Desert of Arizona. At the E. Tenn. mine dump we found actinolite, some zoisite, and down the slope a few of us found weathered staurolites and rutile crystal fragments. Darkness fell before the garnet area was located.

Oct. 21st Meeting

In the absence of President Gevers, Prof. MacGaw presided. After a free for all discussion of the recent field trip, Prof. MacGaw told of the excavation at the end of the new Oak Street tunnel under Missionary Ridge. Scientific announcement of the geological development there will be made at a later date.

At the annual election of officers, Mr. B. J. Cate was elected president, and directed to select his own "cabinet."

Nov. 5th Meeting

The meeting was held at the usual place and hour. President Cate announced his "cabinet" as follows:

Vice President—Prof. B. K. MacGaw

Secretary—Miss Marcia McMillin

Treasurer—Col. Carl M. Gevers

Field Trips—Miss Mary Morrison

Programs—Hans Thurnauer & Geo. C. Olmsted

Corres. Secty—Geo. C. Olmsted

After a general discussion of plans and policies, a field trip to Mr. Abeel's coal mine and to the old Inman iron mine was planned for Sat. Nov. 8th.

Geo. C. Olmsted
1129 James Blvd.
Signal Mountain, Tenn.

Georgia Mineral Society

Members of the Georgia Mineral Society visited the Arabia and Rock Chapel granite quarries near Lithonia, Georgia, about twenty-five miles southeast of Atlanta for their November field trip.

Prof. H. E. Cofer, of the Geology Department of Emory University Dr. A. S. Furrer, of the Georgia Geological Survey; and Nelson Severinghaus, society president, led the expedition.

Pegmatites at the Arabia quarries disclosed anchorite, particularly good biotite, calcite, fluorite, garnet, pyrite, rosy quartz, titanite, and zeolite. Considerable attention was attracted by a minute emerald crystal found by Charles Ostrander. The occurrence of fluorite (a creamy white under short wave) and calcite was considered an unusual feature of this area.

After a picnic lunch at Consolidated Quarries, Rock Chapel, the group was carried on an inspection and collection tour of the quarries by Nelson Severinghaus, who is the general manager. A locality where considerable black tourmaline has been uncovered recently was first visited. White feldspar approaching the quality of moonstone was also found here. Among the other minerals found at the Rock Chapel quarries in small quantities were pyrite and molybdenite.

Specimens of granite from this quarry have been used to fashion a unique link bracelet, set in silver, with each link of a distinctively different polished granite mineral.

The day, November 24, one of Georgia's finest; the location, the renowned Lithonia granites; and the people, the most learned geologists to the devout six-year-old collectors—all conspired to make this trip a memorable occasion for those fortunate members in attendance.

Erna L. Mason
Corresponding Secretary
c/o State Health Department
Atlanta, Ga.

Queens Mineral Society

The Q. M. S. met on Nov. 14 at its headquarters in Richmond Hill, N. Y., and there were still comments on the wonderful exhibit the Club took part in at the Newark Convention of the Eastern Federation, as we came out with flying colors. The judges awarded our Club the four first prizes and we feel very proud.

The meeting then consisted of a round table discussion on "Identification of Minerals from Franklin, N. J."

The election of officers for 1953 was held over till the next meeting.

Marie L. McKay, Secretary
111-20 106th St.,
Ozone Park, L. I., N. Y.

Mid-West

Club Proposed For Indianapolis

Francis M. Hueber, 1603 Central Ave., Apt. 115, Indianapolis 2, Ind., is interested in forming a mineral club in his city. His letter, dated Oct. 15, 1952, reads:

"I have long seen the need for a club for collectors here and have reached the decision that I would be the one to start the wheels rolling in that direction! A club would answer many of the needs of the collectors in our city and state and I'm sure will go over quite well."

All collectors in the city or vicinity are urged to contact Mr. Hueber and assist him in his undertaking.

Chicago Rocks and Minerals Society

Dr. Robert W. Karpinski, head of the Geology Department of the Chicago Undergraduate Division, University of Illinois, Navy Pier, Chicago, spoke at the December meeting of the *Chicago Rocks and Minerals Society*.

His subject was "Exploring for Minerals in French Indo-China." Dr. Karpinski was an engineering geologist at the Universite de Nancy, France, and for two years directed the exploration for gold and tin in French Indo-China.

He began his talk by outlining the trip from France to Saigon. Most of his time was spent in southeast Laos and western Annam, where he and his assistants searched for placer deposits by panning river gravel. This work was among people whom the French considered unsubjugated, the Moïs. Traveling along the rivers in dugout canoes like those used on the upper Amazon, they found the population quite dense, and food easy to obtain.

His slides showed how the natives prepared their food, most important of which was rice; how they obtained water; their housing, their clothing variations, affected by the great clima-

tic differences; their weapons, including the crossbow with which they were most proficient; their ceremonials and temples. Also shown were pictures of the famous Angkor Vat in Cambodia, unknown except locally until 1860. What is known of its history has been learned from the writings of a Chinese visitor in 1296. There were evidences of Hindu, Chinese and Dutch East Indies influences on the 22 to 24 million people, the majority being similar to Chinese. Wild animals abounded, particularly in the hills—even elephants and tigers.

There are no active volcanoes, but there were in the very recent past, and on the lava flows tea and coffee are grown. A great deal of the land in the northern and southern provinces is planted to rice. In the northeast there is a large anthracite area, and alluvial deposits of tungsten and tin, and small gold and zinc deposits in some places. While Dr. Karpinski found gold and tin in various places, they were not in paying quantities.

Dorothy H. Gleiser
Publicity Chairman
1066 Griffith Rd.,
Lake Forest, Ill.

Fort Worth Mineral Club

The Fort Worth Mineral Club held its regular monthly meeting Friday evening, December the fifth.

Kodachrome slides were shown of Bryce and Zion National parks and Mr. Rigney, the Club's secretary, gave a talk on the two parks, the views were taken by Mr. Rigney on his vacation last summer.

There was a good attendance, also a few visitors.

Everyone enjoyed the evening.

Fred L. Mills
Correspondent for the club
108 N. Commerce St.,
Fort Worth 2, Texas

Chicago Lapidary Club

A jeweled Christmas tree was the feature attraction at the regular meeting of the Chicago Lapidary Club on December 4, 8:00 P.M., Grand Crossing Park Fieldhouse, 76th and Ingleside, Chicago, Ill. Decorated entirely with gems and fluorescent materials, all ingeniously mounted, the unusual tree was flooded alternately with black and white light. The idea for the novel Christmas tree was originated last year by Miss Bernice Wienrank, one of the Club members.

The guest speaker for the evening, Mr. Paul Running of Oak Park, one of the trophy winners this year in the Second Annual Gem and Jewelry Contest sponsored by the Chicago Lapidary Club, showed colored movies of a rock hunting expedition in the Northwest rock country. Included were pictures of a rock house built near Bend, Oregon, about which the Saturday Evening Post recently published an article.

Arkansas Mineralogical Society

J. E. Jehlen, Pine Bluff, was elected president of the Arkansas Mineralogical Society Nov. 2, 1952, at a one-day convention of the organization in Hot Springs, Ark.

Other newly elected officers were: John Clarida, Hot Springs, vice president; Lawton Kimzey, Magnet Cove, second vice president; Alex Bauer, Hot Springs, third vice president; Richard Buhlis, re-elected secretary; Mrs. Nell Buhlis, Hot Springs, registrar; Dr. John M. Rodgers, Morrilton, trustee, and W. W. Shepherd, Little Rock, legal advisor.

The officers also comprise the board of trustees for the mineralogical society.

The convention was attended by some 40 delegates from throughout the state. Business sessions were held at the Chamber of Commerce building.

Richard Buhlis reported on the national mineral show and convention held last June in Cannon City, Colo., where the state society won a blue ribbon for its exhibit of Arkansas minerals.

Buhlis was appointed delegate to the 1953 national convention scheduled at Houston, Texas.

Jehlen displayed a large collection of stones, all of which he cut in his lapidary shop. Dr. H. Kauffman-Grinstead, Hot Springs, display consisted of rare gems from all parts of the world.

Richard Buhlis, Sec.
2206 Central Ave.,
Hot Springs Nat. Park, Ark.

West

Mineralogical Society of Southern California, Inc.

(Pasadena, Calif.)

Ed Danner entertained fellow members at the October meeting of the Mineralogical Society of Southern California at Pasadena. Mr. Danner gave a most interesting speech on his trip through Switzerland. The talk was accompanied by many beautiful and unusual slides taken by Mr. Danner.

The October field trip for the society was to Trona where members collected rare Searles Lake minerals.

November Meeting

Stan Hill entertained at the November meeting of the Mineralogical Society of Southern California at Pasadena. Mr. Hill showed an outstanding selection of colored slides of many different minerals and gave a brief lecture on each.

December Meeting

A capacity crowd turned out for the December meeting of the Mineralogical Society of Southern California at Pasadena. The speaker for the evening was Dr. Hugo Beni-

off of the California Institute of Technology Seismological Laboratory. Dr. Benioff showed a number of slides as he explained how earthquakes are caused by strain upon the earth's crust. Dr. Benioff described the different types of earth movements and methods of recording in order to determine time, intensity and location. Dr. Benioff also described a new instrument which he is developing to measure stress upon the earth's crust preceding an earth movement. This instrument will consist of a fused quartz tube approximately one hundred feet in length suspended between two concrete piers firmly imbedded in the earth's surface. The quartz tube will be attached to only one pier and any movement of this tube caused by stress upon the earth's crust may be measured with respect to the other pier by use of sensitive recording instruments. Dr. Benioff believes that by keeping a constant record of this measured stress it may be possible in the future to give a prediction of the approximate time of future earthquakes.

Mrs. Guilford Dudley
Publicity Chairman
260 Alpine,
Pasadena, Calif.

Santa Fe Gem & Mineral Society

In September 1952 the Santa Fe Gem & Mineral Society met on a field trip near Taos, N. Mex., hunting staurolites which abound in that part of the state.

A field trip was taken also the first week in October in conjunction with the Rio Grande and Salida Gem & Mineral Societies of Colorado to the agate deposits in San Luis Valley.

Mr. John Wallace of Santa Fe talked on and illustrated the lost wax method of casting at the regular October meeting. A moving picture of the process of making spheres was shown also.

On Nov. 18th, Mr. Oscar Branson, of Albuquerque, gave a talk on gem mineral collecting in Old Mexico. This was illustrated with specimens of finished and unfinished stones and proved to be very informative.

Ora D. Orme, Sec.
RD 1, Box 55
Santa Fe, N. Mex.

Humboldt Gem & Mineral Society

(Eureka, Calif.)

The Humboldt Gem & Mineral Society met Oct. 24th. A dozen and a half members from the Del Norte County Society were visitors.

A nominating committee was appointed.

Frank Loveless, Jr., past president, gave a talk on cutting and polishing stones.

Mr. Hal Choiser, agricultural commissioner of Humboldt County, presented the Society with the trophy and ribbons won at the State Fair.

Puget Sound Gem & Mineral Club

The Puget Sound Gem and Mineral Club of Seattle, Wash., with Mrs. Charles Byxbee as president, takes pride in their membership list of 41 since it's organization in Oct. 1952. Plans are being made for a Junior group with the appointment of Mr. Clayton Johnson as advisor. Meetings are held the second Monday of each month at the Burien Log Hall, in Burien, Wash., a suburb of Seattle.

Mrs. Francis L. Thompson
Publicity Chairman
13251 Ambaum Blvd.
Seattle 66, Wash.

Wasatch Gem Society (Salt Lake City, Utah)

Members of the Wasatch Gem Society held their dinner meeting at the Temple Square Hotel, the evening of December 12th, with annual exhibits on display, elected officers to head the club for the coming year, which are as follows:

Henry T. Fisher, President
Kenneth R. Tanner, Vice President
Mrs. Elliot Bird, Secretary
Elliott Bird, Treasurer

Members appointed to the Board of Directors are: W. H. Saylor, Dr. B. D. Bennion, K. O. Stewart and Howard Hanks.

Mrs. Elliott Bird, Sec.
1413 Emerson Ave.,
Salt Lake City, Utah

Mineralogical Society of Arizona

Our State Fair has just concluded, and the Society played a large part in making the mineral display a success. There were many wonderful entries in thumbnail and cabinet classes from all over the state. The thumbnail first award went to our own Katy and Russ Trapnell, who many Rocky Mountain Rock Hounds will know. The competition was very stiff, as the judges testified.

A new class, Miniatures, was added this year. Specimens $1\frac{1}{2}$ " X2". They really stole the show. It is a nice size to collect, and everyone was enthusiastic about this addition. The members of the Society donated their time freely and untringly to answer questions, and show people the many exhibits.

Our first field trip was a success in spite of the impending rain. There were amethyst xls, fluorite, specularite, hemimorphite for all. Some very nice specimens were found. When we unwrapped all the pieces at home, we had some very nice fluorescent and phosphorescent material.

Everyone is happy the Society has convened for the 1952-53 year, and are looking for

ward to some interesting meetings, and productive field trips. We borrowed an idea and held a tall story contest last meeting. The corn was really tall, everyone had a grand time. The prize was taken by a junior member, Jimmy Nelson. We have a number of new members since our first meeting in Oct.; several of them juniors. These young people of 10 or 12 keep the rest of us on our toes. They are an inspiration.

We all enjoy ROCKS AND MINERALS very much. Just wanted you to know we are reading your magazine, and that there are many Rock Hounds with a serious case of Rock Pox here in Phoenix.

Mrs. J. L. Clark
1348 E. Alta Vista Rd.,
Phoenix, Arizona

Orange Belt Mineralogical Society (San Bernardino, California)

At the November meeting of the Orange Belt Mineralogical Society two films were shown and enjoyed by all. They were "Wyoming and Its Natural Resources" and "Nevada and Its Natural Resources". The films were obtained from the Department of Interior.

Ray Scherzinger
Corresponding Secretary
6991 Valley Way,
Riverside, Calif.

R.&M. (Mineralogist's Bible)

Editor R&M:

Am enclosing money order to cover my subscription for ROCKS AND MINERALS for the coming year. Like so many others I want to add my congratulations to you on continuing to put out a very fine publication. I think, as evidently others think, that ROCKS AND MINERALS belongs on the shelf alongside of the Mineralogist's Bible—Dana's System.

E. H. Sarles
2026 Elm Ave.,
Norwood, Ohio

Dec. 10, 1952

World's Best Want Ad Medium for Minerals!

Editor R&M:

Just a few lines to let you know that I was very pleased with the results of my ad, which ran in the last issue of R & M. Your Classified Ad Dept. is indeed the "World's Best Want Ad Medium for Minerals."

Roger Maserang
Box 395, R.R. 1
East Carondelet, Ill.

Dec. 3, 1952

Publications Recently Received

Minerals of New Jersey

By William Clement Casperson

This is an interesting publication written by Mr. Casperson who is Curator of the Paterson Museum in Paterson, N. J. He describes many of the State's most important minerals, their localities, and in many instances historic notes appear as a large number of New Jersey's mineral localities are steeped in historic lore. The iron, copper, and zinc mines together with basalt quarries receive special attention.

This very interesting publication contains 20 pages and is sold at the low price of 35c postpaid. Order your copy direct from the author, William C. Casperson, 9-11 Hamilton St., Paterson 1, N. J.

Supplement To Minerals of California

A new supplement to Division of Mines Bulletin 136, "Minerals of California," has just been released by the Division of Mines. The supplement, which brings up-to-date the listing of minerals found in California, was written by Joseph Murdoch and Robert W. Webb, authors of Bulletin 136.

As in "Minerals of California," the supplement lists minerals alphabetically and gives the localities in which they have been found. A bibliography included with the report lists references that discuss California mineral localities.

The new supplement, which embodies all information in the first supplement—issued in the California Journal of Mines and Geology, October, 1949—and all new information as well, should be of interest to miners, prospectors, geologists, and mineral collectors alike.

Bound in red paper, the supplement consists of 46 pages and is priced at 35c, plus 3% tax for residents of California. For sale by the Division of Mines, Ferry Building, San Francisco 11, Calif.

Colorado School of Mines Publication

The Colorado School of Mines at Golden has announced publication of "Metallurgical Research in Uranium, Manganese and Nodular Cast Irons" for use by metallurgists and instructors in the field.

James M. Warfield reports on the spectrographic analysis of carnotite ores for their uranium content; Thomas A. Hendrickson reports on research in the field of transforming manganese from its original form to the water-soluble chloride form by heating in an atmosphere of dry chlorine gas; and James H. Barnett has written on the effect of heat treatment upon the hardness, microstructure and combined carbon content of some nodular cast irons. He believes that by proper treatment, the characteristics of nodular iron can be changed so that it will meet any one of a number of different requirements.

The publication sells for \$1.50 and may be purchased from the department of publications, Colorado School of Mines, Golden, Colo.

Other recent publications issued by the famous mineral engineering college include: "Examination of Well Cuttings" by Julian W. Low, a study of the cutting, handling and examining of oil well cuttings and the recording of data, \$1.50; "Studies of Organic Limestones and Limestone-Building Organisms," compiled by J. Harlan Johnson, internationally known limestone authority and reef expert, \$1.50; and "A Study of Methods of Removing Sulfur from Petroleum Coke" by Frederick K. Sabott and William C. Schafer, 50 cents.

Smithsonian Publication

The Smithsonian Institution, Washington 25, D.C., has issued:

"Primitive fossil gastropods and their bearing on gastropod classification," by J. Brookes Knight, 56 pp., 2 pls.

California Publication

State of California, Division of Mines, Ferry Building, San Francisco 11, Calif., has issued:

"Legal guide for California prospectors and miners," compiled under the direction of L. A. Norman, Jr., 78 pp.

Canadian Reports

Two geological reports have been issued by the Department of Mines, Quebec, Canada. The reports are:

"Geological Report 51. Olga-Goeland Area (Abitibi-East County)," by P. E. Imbault, 77 pp., map in pocket.

"Geological Report 55. Belleterre Area (Temiscamisque County)," by P. E. Auger, 54 pp., 3 pls., 6 figs., map in pocket.

The Ontario Department of Mines, Toronto, Ont., Canada, has issued the following reports:

"Geology of Errington Township, Little Long Lac Area. by E. G. Pye, 140 pp., 58 illus., colored geological map in pocket. (Issued as Vol. LX, Part VI, 1951).

"Geology of Harker Township," by J. Satterly, 47 pp., 12 illus., colored geological map in pocket. (Issued as Vol. LX, Part VII, 1951).

West Australia Bulletin

A most interesting publication was received a few weeks ago, from the Geological Survey, Perth, Western Australia. It covers deposits in that country of kyanite, uranium, lead, talc, manganese, asbestos, iron and other minerals as well as beach sands. This 5-page "Report of the Geological Survey for the Year 1949" is well illustrated with colored maps, drawings and sketches.

French Equatorial Africa Bulletin

Bulletin des Mines No. 5 is a 101-page bulletin with 7 figs. and a large map in pocket. Printed in French. Issued by the Director of Mines and Geology, Brazzaville, French Equatorial Africa.

Catalogs

Burminco Issue New Catalog

Burminco, 128 S. Encinitas Ave., Monrovia, Calif., have issued a big new catalog of Blank Jewel Mountings and Findings. It lists over 100 different styles—sterling silver, solid 10k and 14k gold, and gold filled in many beautiful designs in brooches, pendants, pins, chains, bracelets, etc. 20c per copy.

Minerals Unlimited Issue New Catalog

Minerals Unlimited, 1724 University Ave., Berkeley 3, Calif., have issued a new catalog devoted to minerals of the United States. It is the largest catalog of one-of-a-kind minerals they have ever published. The catalog consists of 16 pages; the minerals are listed alphabetically beginning with acmite from Magnet Cove, Ark., and ending with zunyite from Silverton, Colo.

Gem Cutters Supply Catalog

Gem Cutters Supply, 9th and Keo Way, Des Moines 14, Iowa, have issued a 15 page pocket-size catalog describing lapidary machines, equipment and supplies which they carry.

Plummer's Issue 1953 List

Plummer's Minerals, 4720 Point Loma Ave., San Diego 4, Calif., have issued their 1953 list. This is a pocket-size publication of 30 pages and it lists mineral specimens, rough gem material, sawed slabs, boxed mineral sets, mineralights, etc.

Sta-Rite Display Cases

J. L. Sumner Co., 209 W. Dobbin Road, Phoenix, Arizona, have issued a one-page folder covering their Sta-Rite Display Cases. These cases are ideal for displaying cut stones, small loose crystals, sawed slabs, etc. Send for the folder.

Scots Pictorial Calendar

A most beautiful calendar for 1953 has been received from Sandy Ramsay, 1015 Aikenhead Road, Kings Park, Glasgow S4, Scotland. It is captioned "The Scots Pictorial Calendar—in colour" and consists of 24 pages and cover—all depicting Scottish scenes such as lakes, mountains, villages, castles. The pictures are very beautiful and we are delighted with them all.

LOOKING BACK - - -

Twenty-Five Years Ago in ROCKS AND MINERALS
March, 1928, Issue

The Geology of the Island of Guam, by P. J. Searles, Lieutenant-Commander, U.S. Navy, pp. 1-3. An intensely interesting article illustrated with a map of the island and a photo of Agana, the capital city.

The Romantic History of Monazite, by Edward Cahen, a British author of a famous book, "The Mineralogy of the Rarer Metals." In this article, pp. 4-5, Mr. Cahen told us how monazite sands were discovered in Brazil and how boatload after boatload of the precious sand was "smuggled" out as ballast before the Brazilian government woke up to what was going on.

A Compilation of Gem Names, by Gilbert Hart, pp. 6-7. The second installment of the longest list of gem names ever printed up to 1928.

Garnet, by Charles W. Hoadley, pp. 8-9. A short article on the different varieties of garnet and some of their localities.

Blue-John Fluorite, by L. P. Bottley, pp. 10-11. In this article Mr. Bottley, an Englishman, describes the worldfamous Blue John fluorite and its mine at Castleton, Derbyshire, England; it was illustrated with 2 photos. Blue-John is a banded type of fluorite which takes an excellent polish and has been extensively used as an ornamental stone, often worked into vases, dishes, etc. The author told us that this type of fluorite was discovered by two miners, John Kirk and Joseph Hall, who used the name "Blue-John" in contradistinction to "Black-Jack," the local name for zinc-blende.

Phosphorescence of Minerals, by E. Mitchell Gunnell, pp. 12-14. This is Part 2, being a discussion of thermo-luminescence of minerals. In this intensely interesting article, Mr. Gunnell listed a number of minerals which would phosphoresce and also gave the method of procedure for demonstrating the phenomena.

